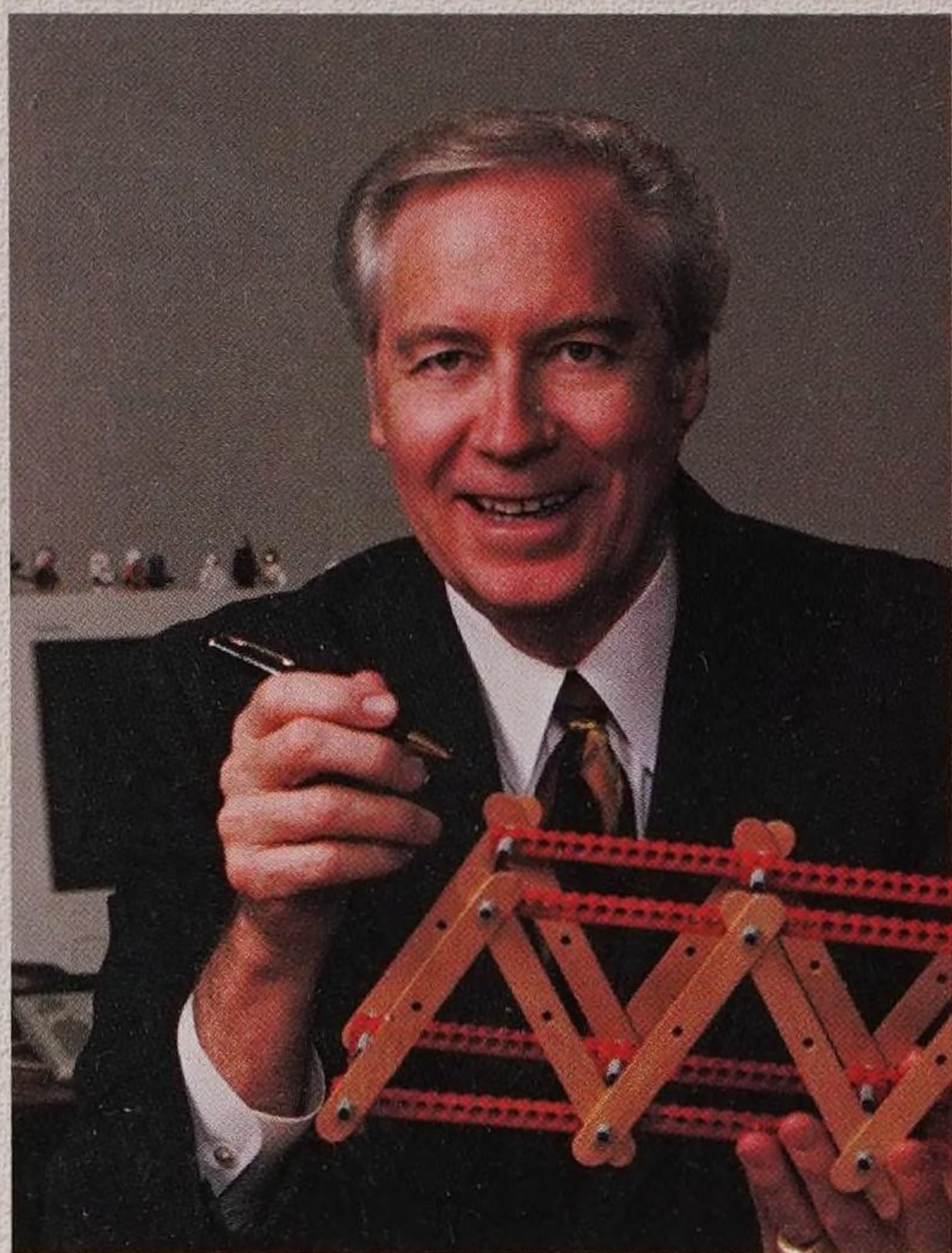


*Because  
Young Minds Matter*







Dear Teacher Friend,

I often think back to my teaching years as I meet and talk with teachers at conventions and schools. I truly believe that teachers are a great bunch of people because we care for students. We motivate and challenge them, hoping and praying that they will achieve, succeed, and enjoy learning. As teachers, we strive to capture and use teachable moments day in and day out.

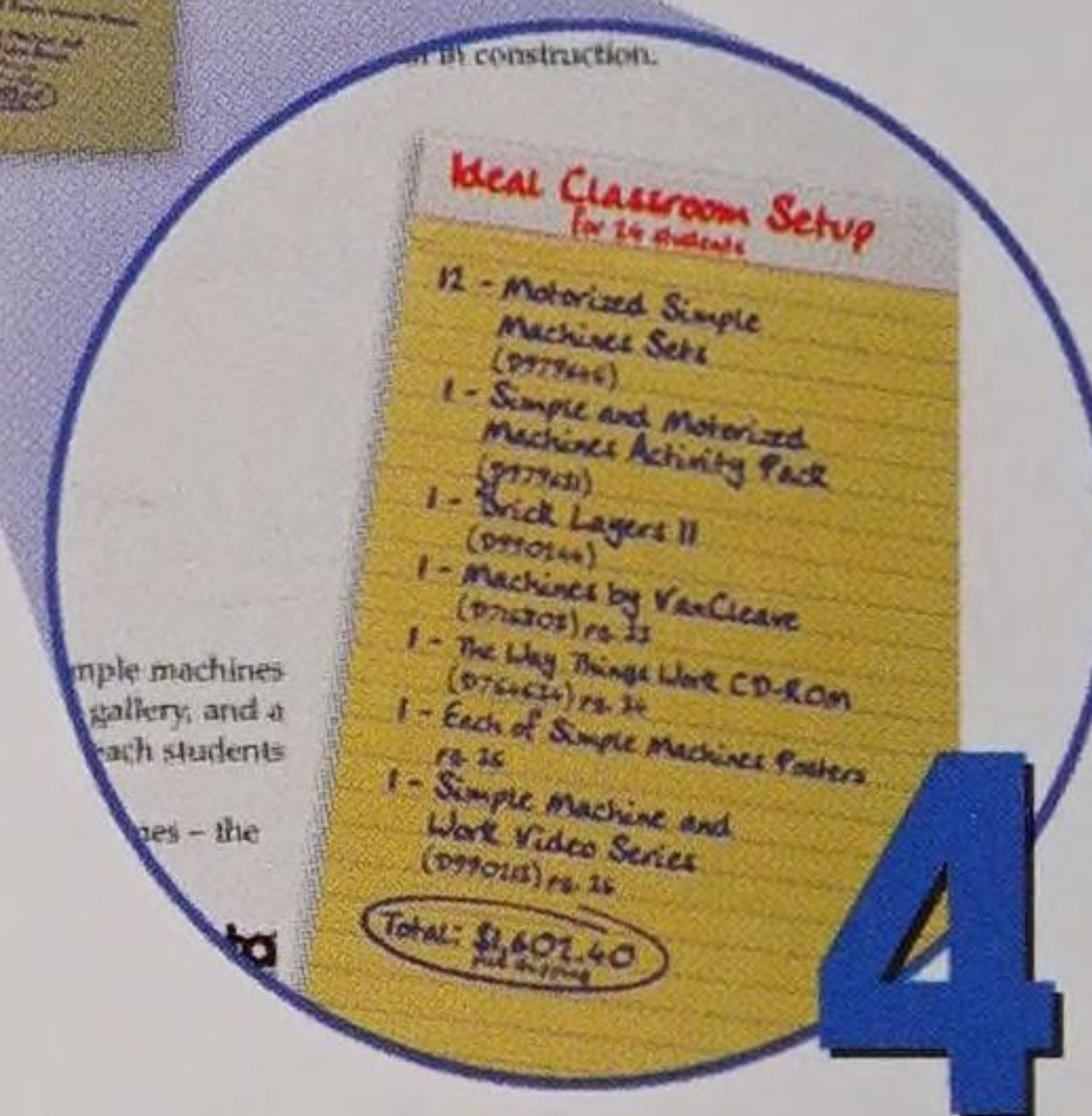
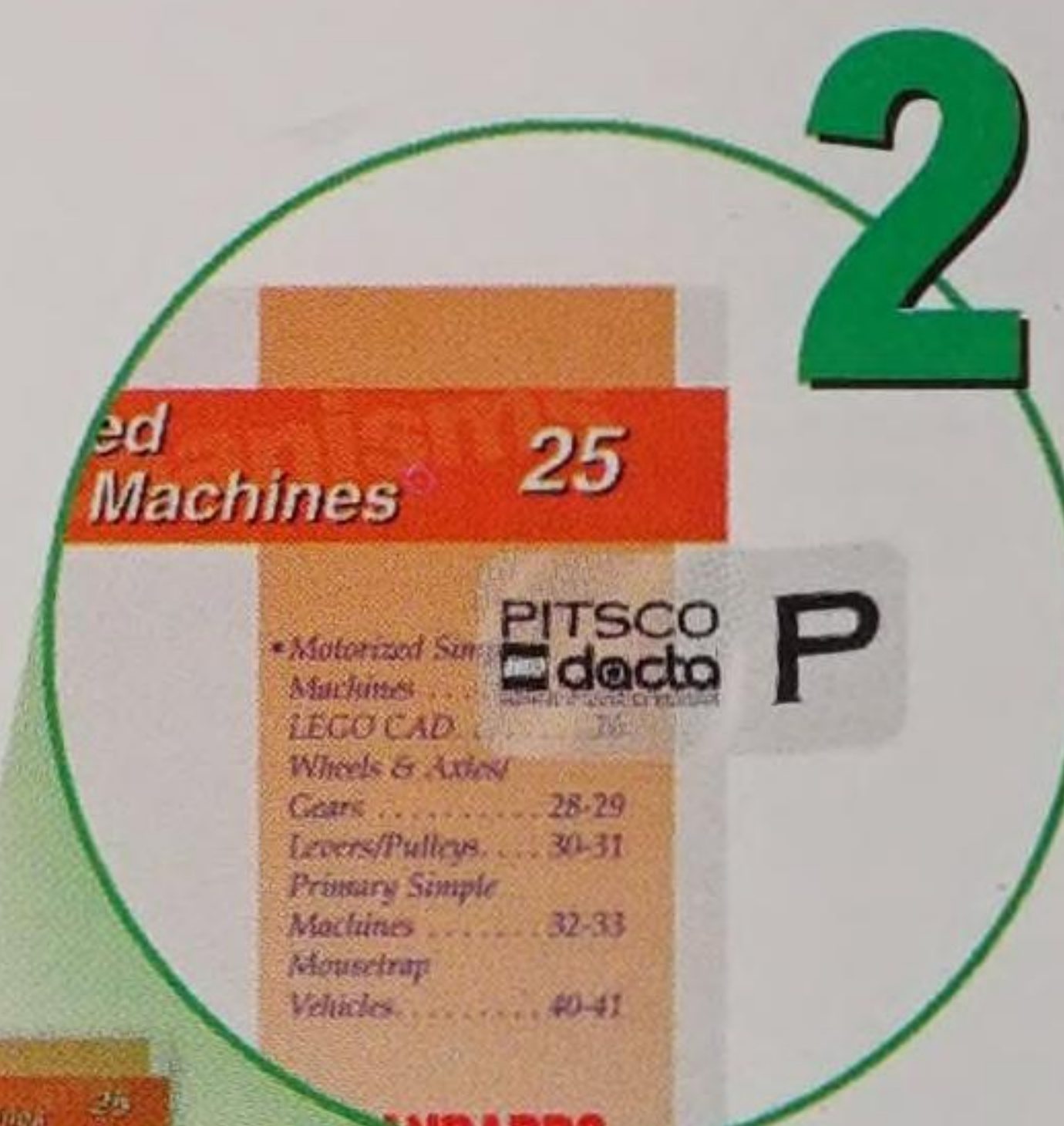
As a company founded and motivated by teachers, we offer you the very best solutions for your students. We understand that finding great products and activities can be one of the most challenging aspects of teaching. We do everything possible to help you implement relevant hands-on, minds-on activities that will motivate students to learn. As our cover says – **Because Young Minds Matter.**

I extend my personal thanks to you for being a teacher. I value all you do to make learning meaningful, engaging, and exciting for the young minds you teach. Thanks also for allowing us to be a small part of your success in educating today's youth.

Have a great Millennium year!

Harvey Dean  
President

# Because Young Minds Matter



**1** We have incorporated teacher requests and input into this catalog to provide easy browsing and prompt location of specific solutions. There are seven sections, each with its own color bar at the page number, and five sections named for one of the topical areas typical of science, for example, Mechanisms and Energy.

**2** We have included a neat card of "peel-and-stick" locators for you to use in marking products throughout the catalog. Simply place one on the edge of the page on which you find a product or idea that you like. Use the P, I, T, S, C, and O stickers on the right-hand pages (odd numbered) and LEGO, D, A, C, T, and A on the left-hand pages. These little puppies work better than turning down the corner of the page.

**3** Within each section you will find classroom pictures showing students engaged in learning activities. Many product shots are also included throughout the catalog.

**4** Another great feature for you is the Ideal Classroom Setup, located in the lower-right corner of many pages. Information in the yellow section provides a ready reference for you regarding equipment, supplies, and support items needed for 24 students to conduct the activity described in the classroom picture. Product numbers, page numbers, and restock numbers are listed for your convenience.



# Table of Contents

## Robotics

2-23

Imagine it! Build it! Teach it! All using Pitsco LEGO Dacta products! Everything from simple robots to computer programmable autonomous robots – it is all here!

## Mechanisms

24-45

From simple to complex, machines are an integral part of our world. Look for great products to stir the imagination of your students and help them learn about machines and inventions!

## Energy

46-63

Renewable energy, alternative energy, work, power, electricity, lasers, pneumatics . . . if it has to do with energy, it's in here! Great hands-on activities for this important topic that involves our future!

## Structures

64-73

You live in them, drive over them, and marvel at them . . . structures! Whether they are bridges, buildings, or towers, we have the activities and resources to bring your classroom alive with this topic!

## Flight

74-83

From the heart-thumping bottle rocket countdown to the lofty, serene flight of a hot-air balloon, we have the hands-on, minds-on activities to set your students' minds to flight!

## Early Learning

84-96

Get hands-on activities started in your school at an early age with our great K-2 products. These products work great in both thematic classroom and center approaches!

## Tools, Resources, & Parts

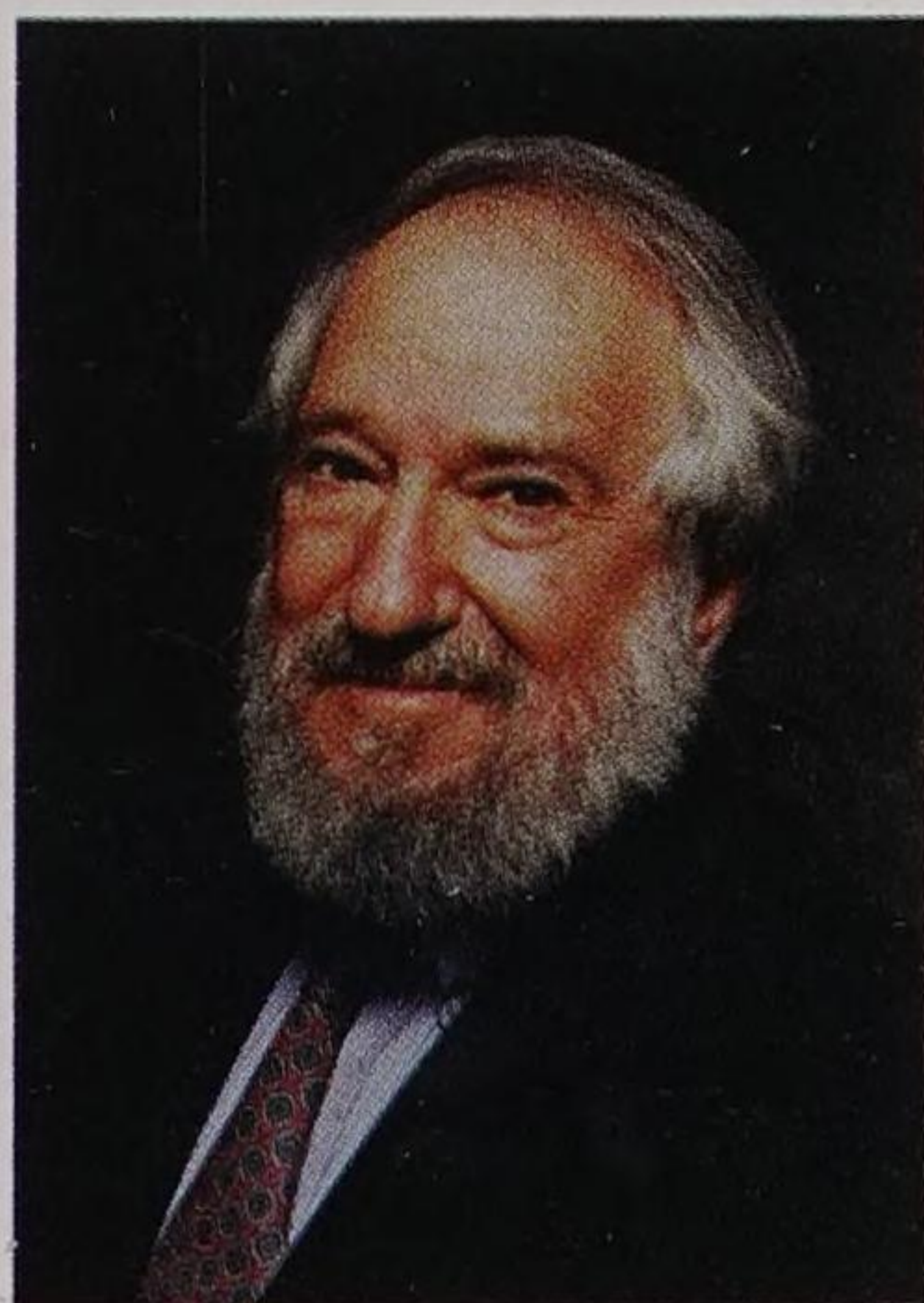
97-110

We have all the spare parts, supplies, and resources you could imagine gathered together for you! No matter if you're looking for yellow LEGO bricks, blue straws, giant toothpicks, or little LEGO people, you can find them here!

## Index

114-123

Our user-friendly index is arranged to enable you to find the products you are looking for in quick fashion. Look for your favorites by product name, type, or manufacturer!



Dr. Seymour Papert

Dr. Seymour Papert is the father of the constructionist theory of learning. Beginning with a close collaboration with Jean Piaget in Geneva and continuing for more than 30 years at MIT, he has devoted most of his life to inventing new ways for children to learn by actively creating meaning for themselves in completing serious projects. These include the LOGO computer language and the idea of connecting LEGO bricks to computers. Books he has authored include: *Mindstorms: Children, Computers, and Powerful Ideas*, *The Children's Machine: Rethinking School in the Age of the Computer*, and *The Connected Family: Bridging the Digital Generation Gap*.

Papert is known as a mathematician, as a computer scientist, and as co-founder, with Marvin Minsky, of the MIT Artificial Intelligence Laboratory.

## Easy-to-Use Information Buttons

**New**

You'll see this icon on innovative, new products available from LEGO Dacta and Pitsco. We're constantly developing and searching for great classroom tools that keep students and teachers on the cutting edge.

**EXCLUSIVE**

This icon appears with great stuff that you can't buy anywhere else, meaning we are the sole source. These products were designed to meet your specific classroom needs, built to our exacting specifications, and backed by our excellent customer service.

**Best Buy!**

When you see the 'Best Buy' icon, you will know we have made a special package for you. Many times it will be a complete system - the easiest way to get started with an activity. All the time, it will mean you are saving money by not buying individual components.

**CD ROM**

There's an abundance of so-called educational CD-ROMs out there, but we've selected only the best for this catalog. Covering a broad range of subjects, they will empower your students to explore, interact, and enrich their hungry minds.



Professional staff development training for LEGO Dacta products is available in most states. Call for details.  
1-800-362-4308





ROBOLAB software is based on the powerful LabVIEW software developed by National Instruments for analyzing and computing the results of industrial applications. Tufts University has worked in partnership with LEGO Dacta to compile the teacher's guide.

ROBOLAB is a powerful tool for learning. Combining creativity, design, logic, and problem-solving skills, students use ROBOLAB to meet challenges with today's technologies.

ROBOLAB is a unique blend of software (ROBOLAB *Programmer* and *Investigator*), hardware (RCX brick and transmission tower), sensors, LEGO DACTA construction sets (for a variety of applications), and your computer (Mac or PC). Students model real-life mechanisms during problem-solving activities with ROBOLAB.

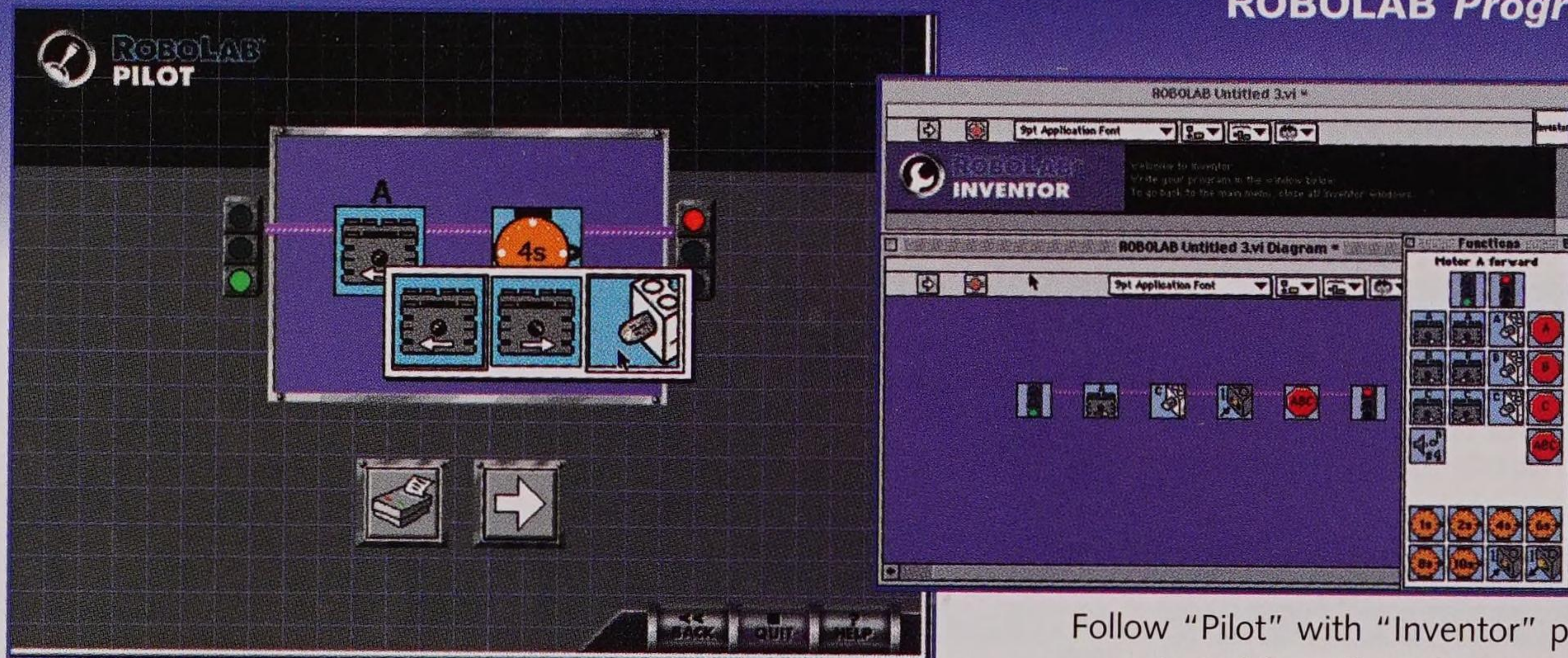
ROBOLAB software is as simple or as advanced as you want it to be. The ROBOLAB *Programmer* is the beginning point of the software, with "Pilot" and "Inventor" modules to graphically aid in the control process. The advanced portion of the software, ROBOLAB *Investigator*, provides an exciting and graphical method of sensing and data logging for advanced control possibilities.

## Successful Programming

The ROBOLAB software incorporates a flowchart approach to programming. A gentle step-by-step progression from beginner to advanced level perfectly accommodates individual abilities and lays the foundations for further class projects. A detailed online help system is also included, enabling students to find the answers to many questions themselves.

## ROBOLAB PROGRAMMER

For ordering information for ROBOLAB *Programmer* see page 13.



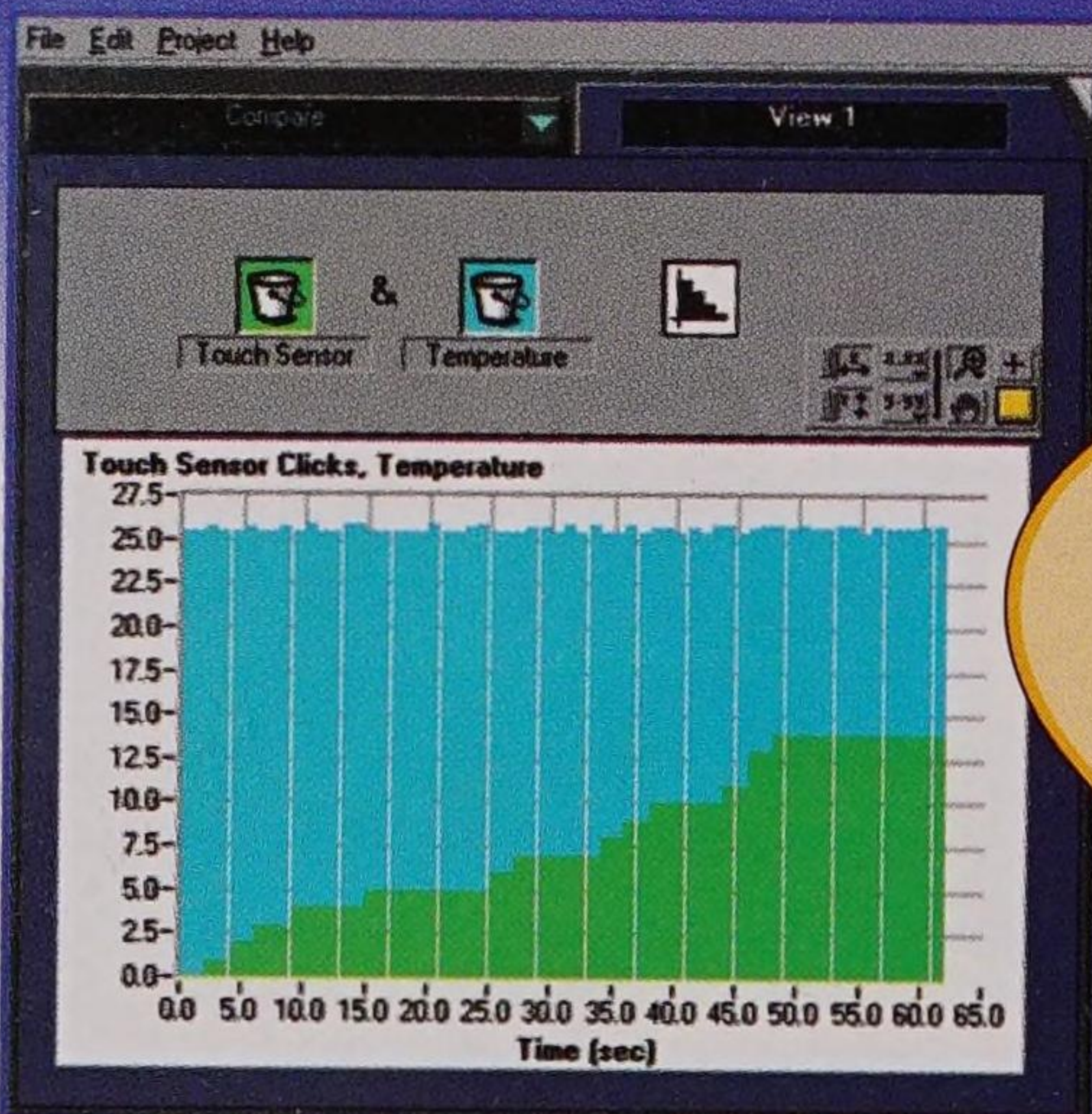
**Note: ROBOLAB Programmer software does not include ROBOLAB Investigator software described below. To get both pieces of software, order the ROBOLAB Investigator software. See page 10.**

The four levels of "Pilot" serve as an introduction to ROBOLAB programming. Building on each other, the levels make it easy for users to become familiar with available options before progressing to the next stage.

Follow "Pilot" with "Inventor" programming, where picture icons are selected from the palette and placed in the program window. By stringing together different combinations of icons, you can create a personal robot program. The four "Inventor" levels range from simple to advanced and present seemingly endless programming possibilities.

## ROBOLAB INVESTIGATOR

For ordering information for ROBOLAB *Investigator* see page 10.



If you're not sure which ROBOLAB software is right for you, buy the ROBOLAB Investigator featured on page 10. It's got it all!

**Note: ROBOLAB Investigator software includes ROBOLAB Programmer software described above. To get the complete software package, order the ROBOLAB Investigator software. See page 10.**

ROBOLAB *Investigator* takes the ROBOLAB *Programmer* and extends its capabilities to data logging. *Investigator* allows the collection, storage, and display of data obtained in real time from a variety of sensors. This data can be analyzed, used to control other RCX functions, or used to provide a graphical representation.

**Call Toll Free!**  
**800-362-4308**



**PC  
AND  
MACINTOSH!**



# ROBOLAB™

LEGO® MINDSTORMS SETS FOR SCHOOLS

## ROBOLAB Overview

3

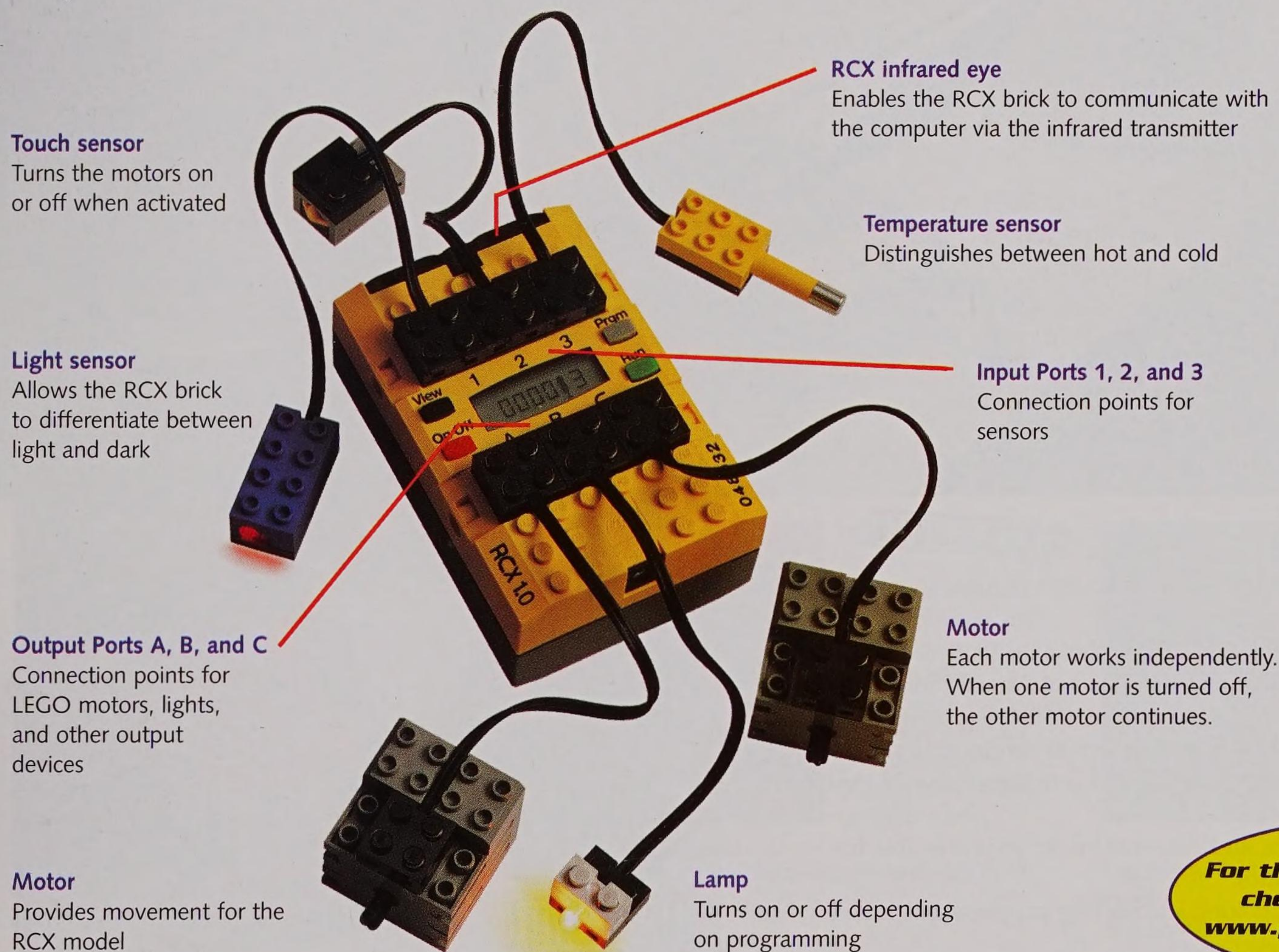
Using the RCX brick, young engineers can build a range of specific models or come up with their own inventions before creating programs on the computer, downloading them to the RCX brick, and conducting the ultimate test of a model's programmed behavior.

The RCX microcomputer is the heart of the ROBOLAB system. It receives programs from the ROBOLAB software (PC or Mac) via an infrared computer link, storing up to five programs at a time. The RCX then runs the programs when activated.

The RCX is great for modeling and experimenting with robotics, machines, vehicles, manufacturing systems, . . . anything that can be controlled using inputs and outputs!

Up to three inputs can be used by the RCX to sense events in its environment, which in turn can determine what the three outputs will do to react to the sensing data.

A great new ROBOLAB software - *Investigator* - provides even more sensing power by providing data logging along with programming features of the ROBOLAB Programmer (formerly known as ROBOLAB 1.5).



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## STANDARDS

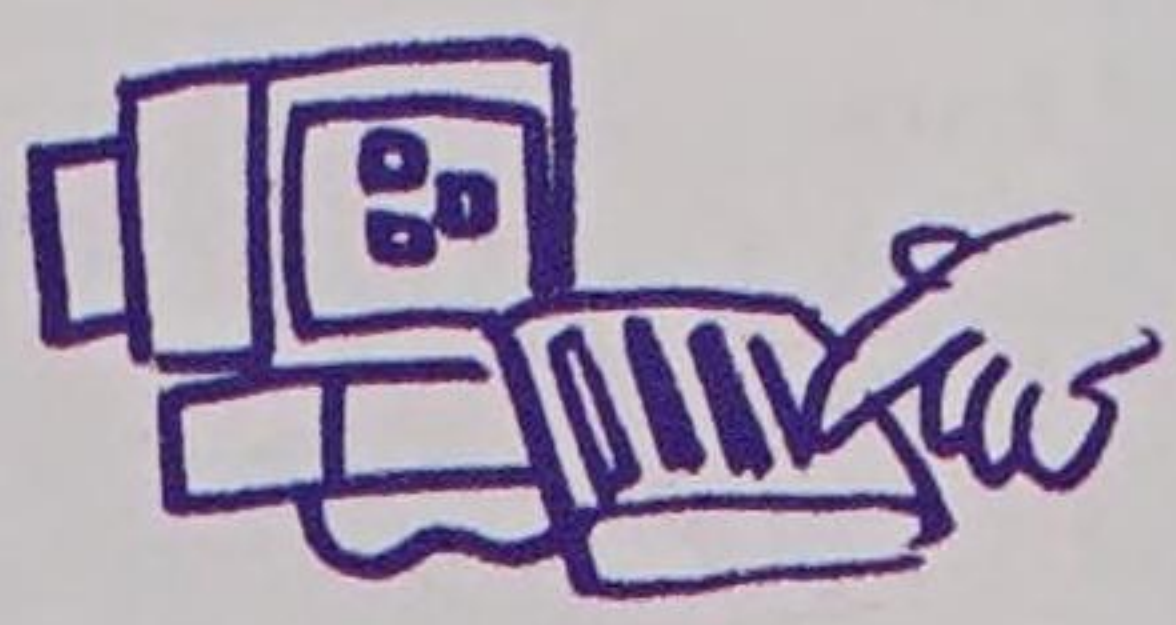
These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site: [www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

For the latest information check our Web site @ [www.pitsco-legodacta.com](http://www.pitsco-legodacta.com)



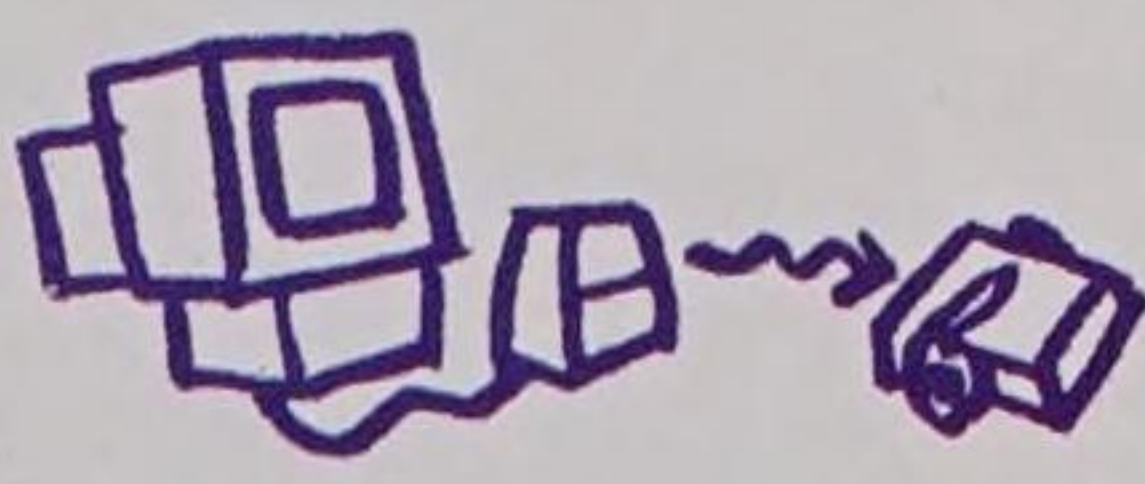
### Build!

Study the activity cards and construct a robot using the RCX brick and the bricks from one of the ROBOLAB sets. Add sensors, motors, and lamp, and your model is ready for programming.



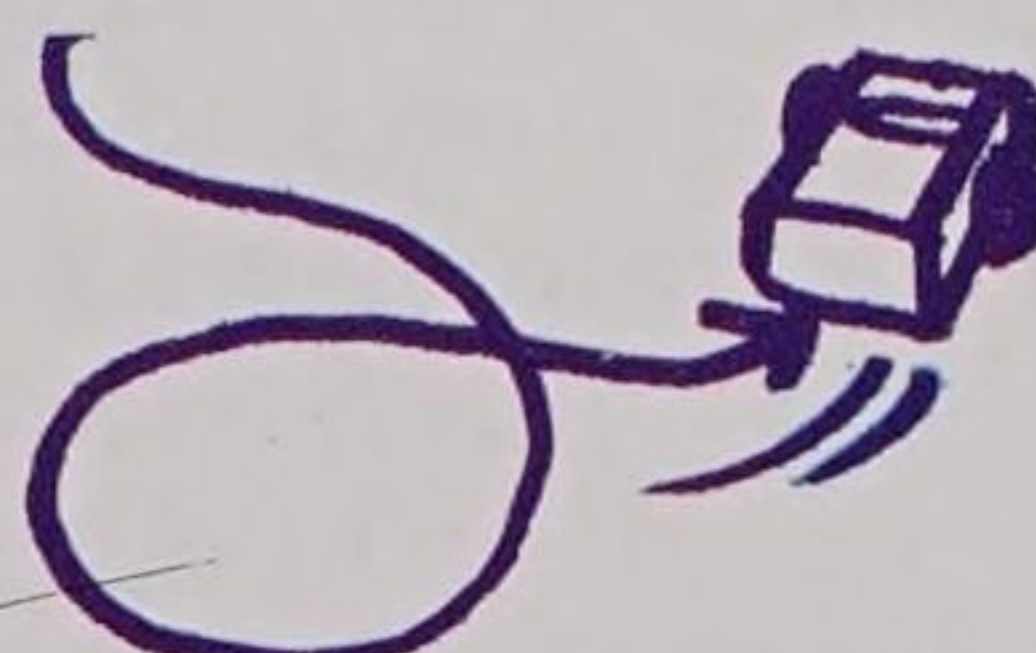
### Program!

Choose from among the eight different programming levels in the ROBOLAB software and design a program by selecting a series of command icons.



### Download!

Click the mouse, and instantly download your program from the computer to the RCX brick via an infrared transmitter.



### Activate!

Your RCX robot is ready for action. Run the program, and see how the motors and sensors respond to the programmed commands.

PITSCO LEGO dacta  
PARTNERS IN INNOVATIVE EDUCATION

### Ideal Classroom Setup for 24 students

Look for these notebook pages throughout the catalog to find the right mix of products for complete classroom solutions. These lists of can't-miss items call for enough materials to serve up to 24 students at one time.





## ROBOLAB STARTER SYSTEM #990084

**EXCLUSIVE**

The ROBOLAB *Starter System* gets you started in turning your classroom into a robotic design laboratory.

- System is designed for four groups of two-three students each.
- Teaching approach and student progressions are detailed for each group.
- Activities build upon previously learned concepts as students explore and apply basic robotic fundamentals in a variety of configurations.
- System includes a diverse set of models and activities that will capture the interest of ALL students.
- Many motors, lights, sensors, and resource bricks are accessible for student innovations in robotics.
- Complete matrix of storage, colors, and sorting supports quick and manageable classroom use.
- Includes ROBOLAB *Programmer* software (see pg 13).

Not only is the ROBOLAB *Starter System* easy for beginners, but it also provides a wealth of engaging, hands-on, problem-solving activities to get students motivated about robotics and, more importantly, about learning. Learning in this environment is spelled F-U-N!

- 1 ROBOLAB Starter Set #979780
- 4 RCX Bricks #979709
- 4 Infrared Transmitter and Cable Pack #979713
- 1 ROBOLAB Programmer Software and Site License #900060
- 1 Robotic Concept Guide #900041
- 1 ROBOLAB CD User's Guide #900052
- 1 Activity Pack for #979780

D990084—\$1,075



**FreeFax™ Orders!**  
**888-534-6784**





**EXCLUSIVE**

## ROBOLAB STARTER SET #979780

The ROBOLAB Starter Set includes four individual group sets and a large number of resource bricks. Each group set is used to build a different model that has four built-in levels/challenges! The elements for each group set have their own sorting tray and are color differentiated to make management quick and easy. Each group set requires an RCX brick, which is not included in the ROBOLAB Starter Set.

Using motors and sensors from the group sets with the resource set, you can also build a fifth model, the famous "Table Edge Finder," also known as the Torbot!

Contains more than 1,600 elements, including:

- 3 gear motors
- 4 light bricks
- 4 touch sensors
- 5 full-color building instructions
- 1 micro motor
- 3 light sensors
- 14 wires (including two really long ones)

The RCX Brick and ROBOLAB Software are sold separately.

**D979780—\$320**

## ROBOLAB ACTIVITY PACK

**D909780—\$25**

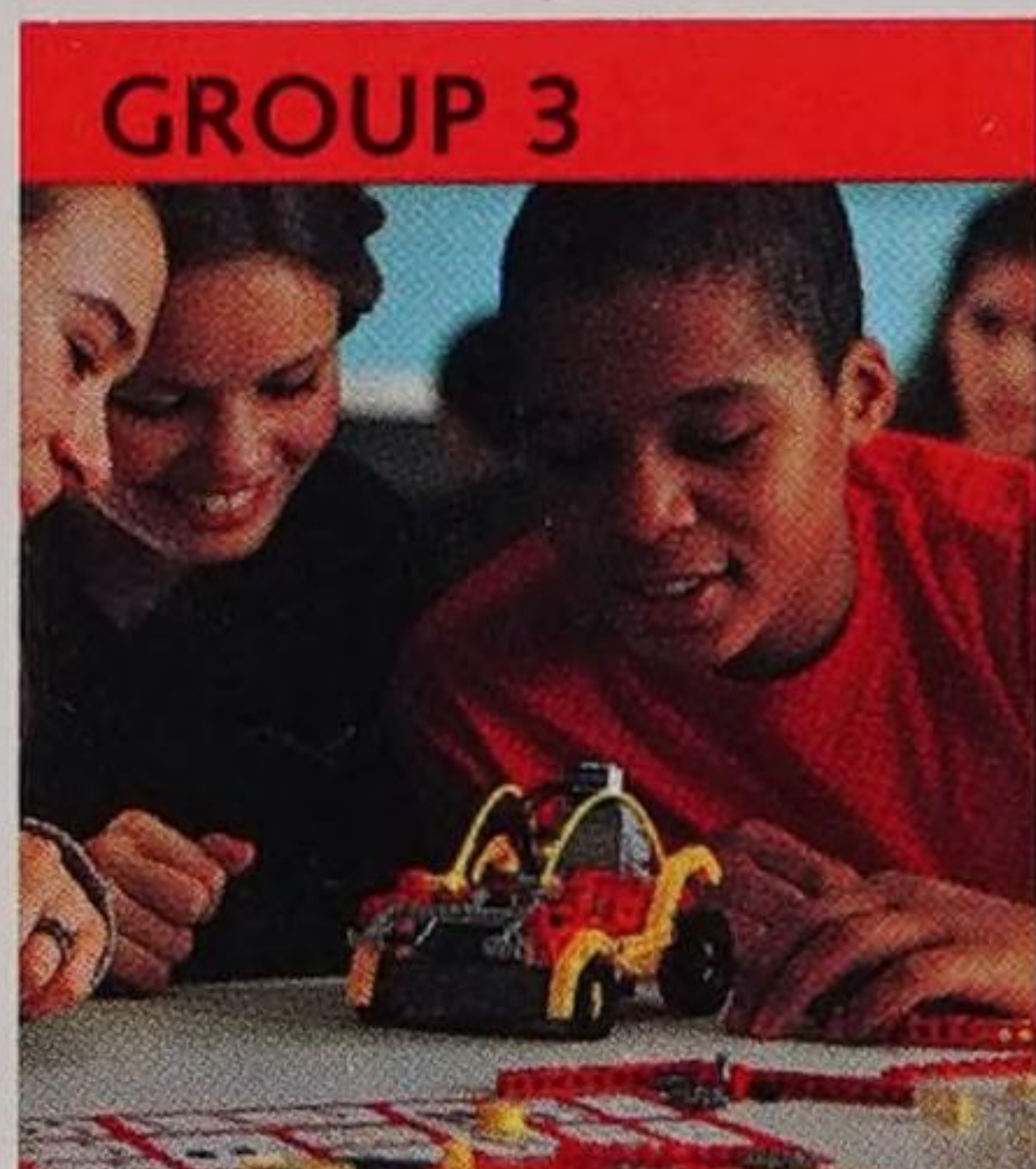
## SPANISH VERSION

**D209780—\$25**

## Colorful classroom management

Individual models and groups of students can be easily managed with the aid of practical color codes that give teachers a rapid overview when ensuring all the necessary equipment is present before a lesson begins. The ROBOLAB Starter Set includes:

- 5 color-coded building instructions
- 6 color-coded element surveys
- 6 sorting trays



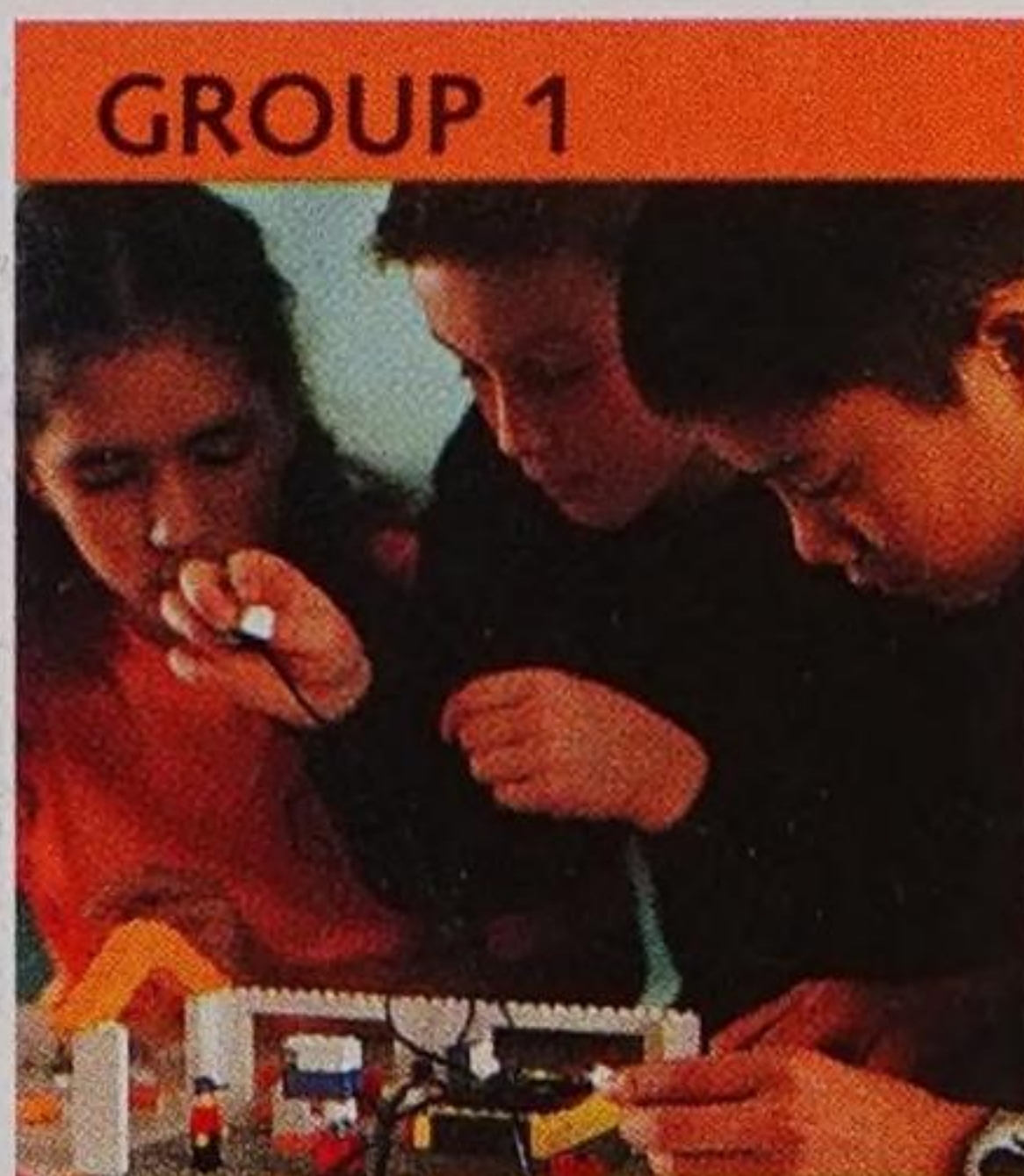
### GROUP 3

#### The Car

An intelligent vehicle that can be programmed to follow any route mapped on the floor. Activate the touch sensor to make it stop, start, reverse, or flash its light. The car will fascinate and amaze.

For the model the following elements can be used:

- 1 gear motor
- 1 light brick
- 1 touch sensor



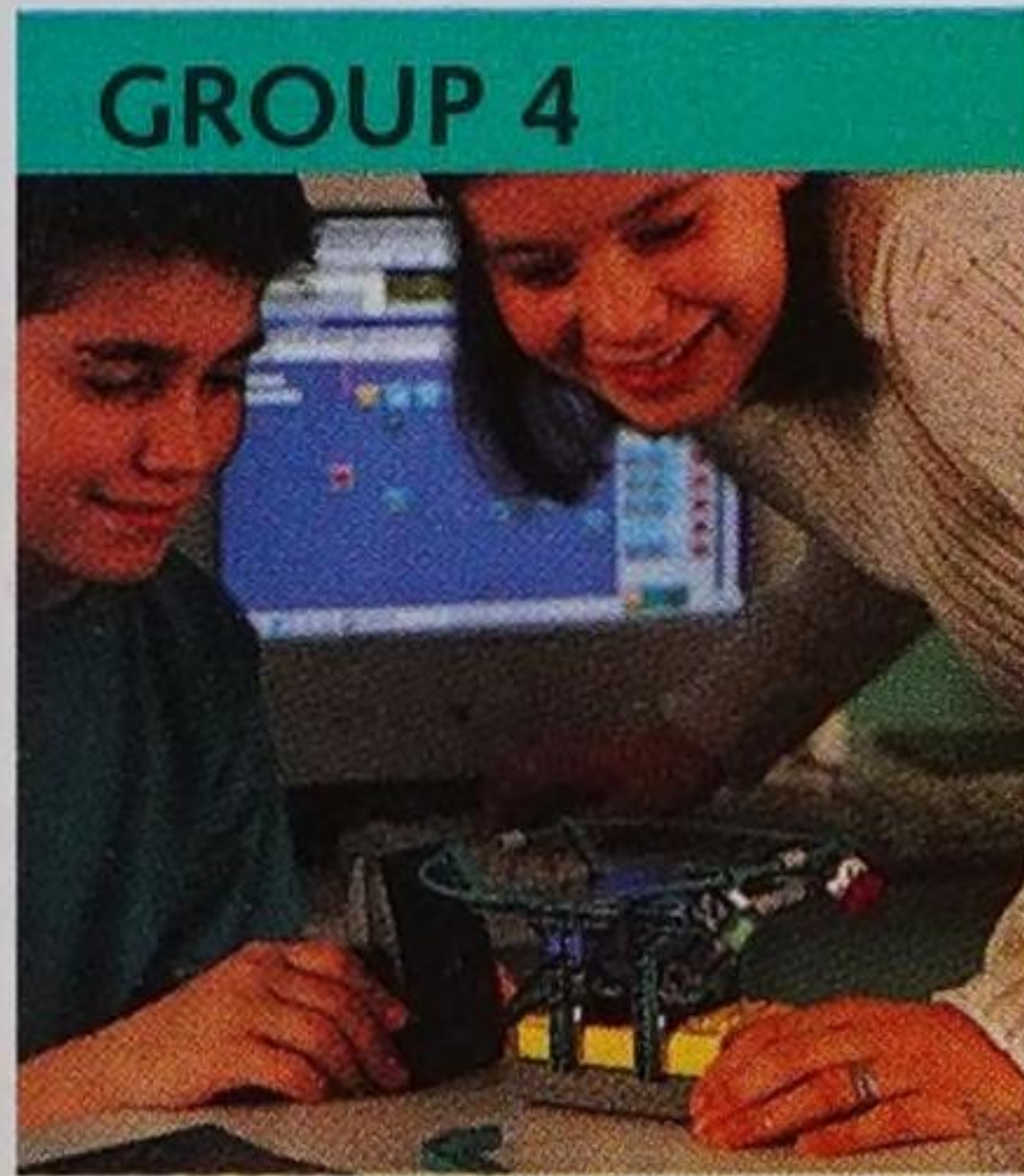
### GROUP 1

#### The Home

A wake-up call, a bed that moves into an upright position, and a bedside lamp that turns on when it gets dark outside – students can learn to run the perfect electronic household with this tabletop model.

For the model the following elements are used:

- 1 micro motor
- 1 light brick
- 2 light sensors



### GROUP 4

#### The Gadget

Ideal for the sporty, the gadget detects objects that fall onto it and throws them back. Make your own game of mini basketball or crazy golf and test how the gadget reacts.

For the model the following elements are used:

- 2 light bricks
- 1 touch sensor
- 1 light sensor

# ROBOLAB Starter System

5

## ROBOLAB

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## • ROBOLAB

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## ROBOTICS

## CONCEPT GUIDE

A detailed and easily digested introduction to robotics and robotic systems.

**D900041—\$15.50**

## STANDARDS

These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site:

[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)



### GROUP 2

#### The Bug

Use touch sensors and make the model walk in different directions – the bug is at your command. Build and program your bug model in different fun ways and put a range of behavioral patterns to the test.

For the model the following elements can be used:

- 2 gear motors
- 2 touch sensors

## Ideal Classroom Setup for 24 students

1 - ROBOLAB Starter System (D990084)

2 - ROBOLAB Starter Sets (D979780)

8 - RCX Bricks (D979709) pg. 12

8 - IR Towers (D979713) pg. 12

**Total: \$2,942**  
plus shipping

**PITSCO** **dacta**  
PARTNERS IN INNOVATIVE EDUCATION

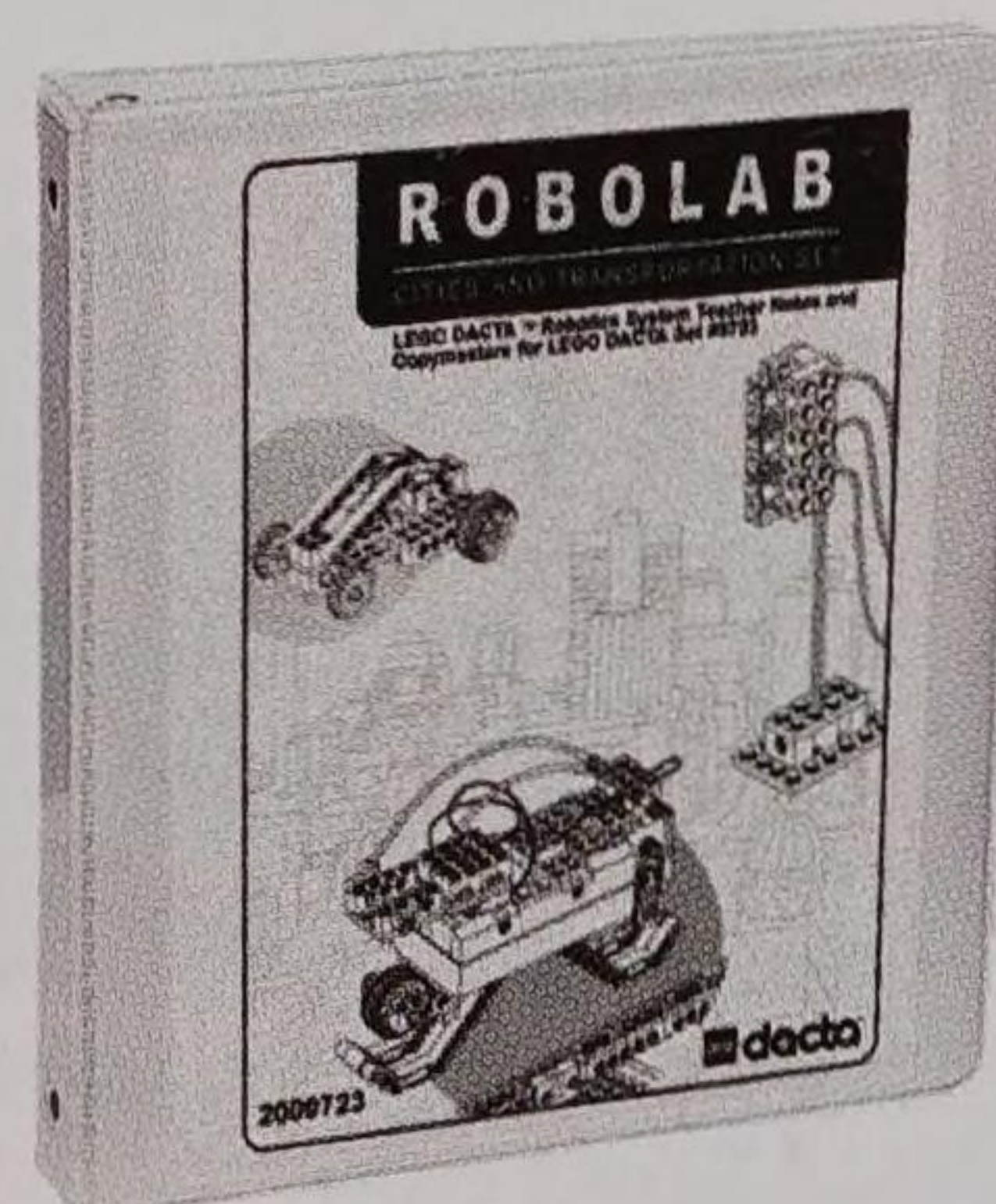
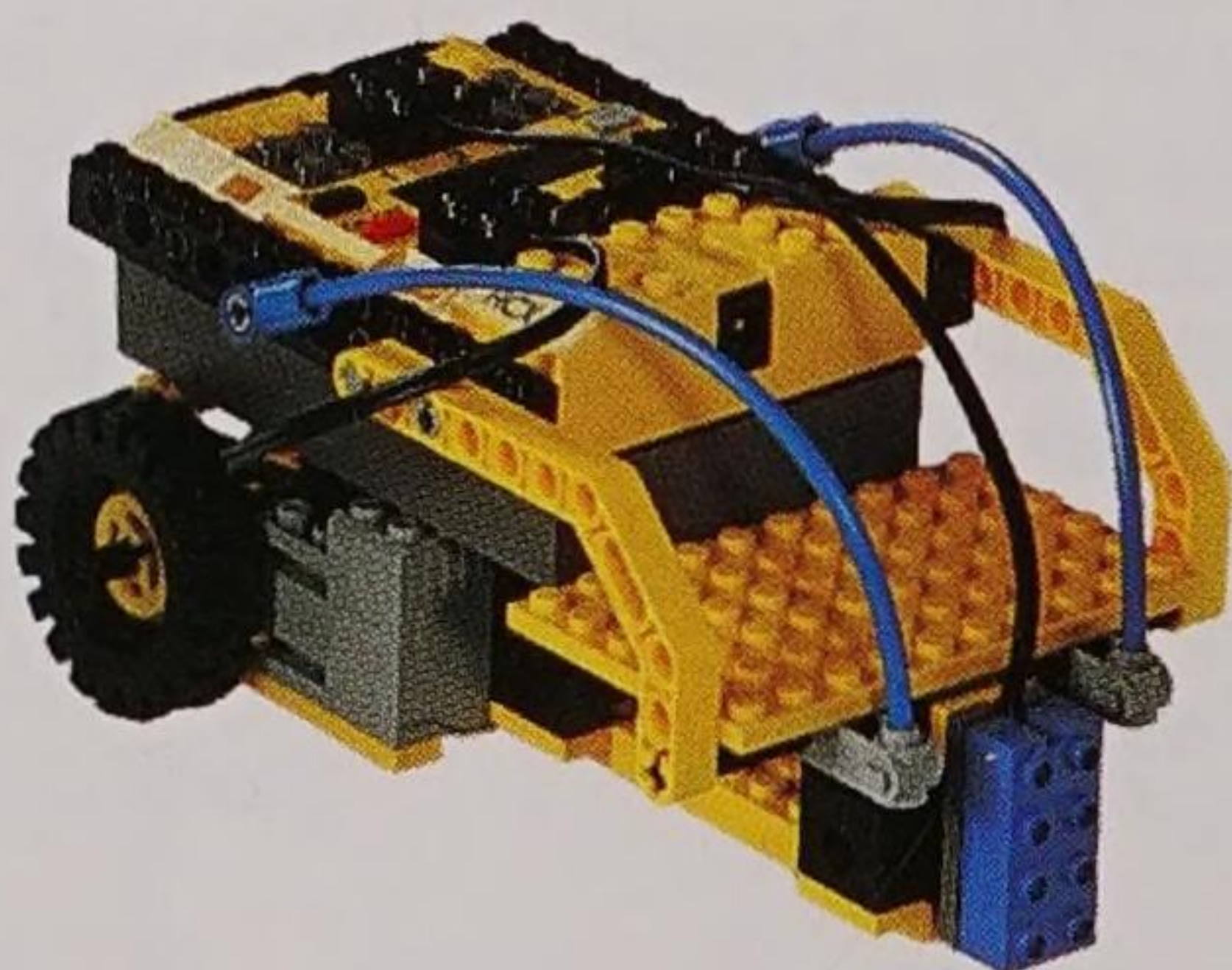



**New** **EXCLUSIVE**
**ROBOLAB CITIES AND TRANSPORTATION SET #979723**

This set will introduce students to basic concepts of robotics and teach them real-life applications of automated devices. Kids will love building exciting models to explore four different topics: Simple Traffic Control, Traffic Monitoring, Intelligent Vehicles, and City Planning. The four applications cover, in a step-by-step manner, computer concepts such as creating and storing sequences of instructions and using input/output mechanisms. Teachers will enjoy the way the set integrates many areas of the curriculum, including science, technology, math, environmental studies, geography, and social studies. Plus, it provides easy methods of classroom management. The set contains 389 elements, including a 9-volt motor with gear reduction, two light sensors, two touch sensors, four lamps, building instructions for the four models, and an element-sorting tray. ROBOLAB software and RCX brick sold separately.

Level: Intermediate

D979723—\$110


**New** **EXCLUSIVE**
**ACTIVITY PACK FOR CITIES AND TRANSPORTATION SET #909723**

The activity pack, to be used with the ROBOLAB Cities and Transportation Set, contains worksheets that cover basic information required to carry out the activities including: fundamentals of robots and robotics; the RCX brick; sensors; and the use of the computer to plan, build, download, and modify a program.

Level: Intermediate

D909723—\$25

**Order Online!**

[www.pitsco-legodacta-store.com](http://www.pitsco-legodacta-store.com)





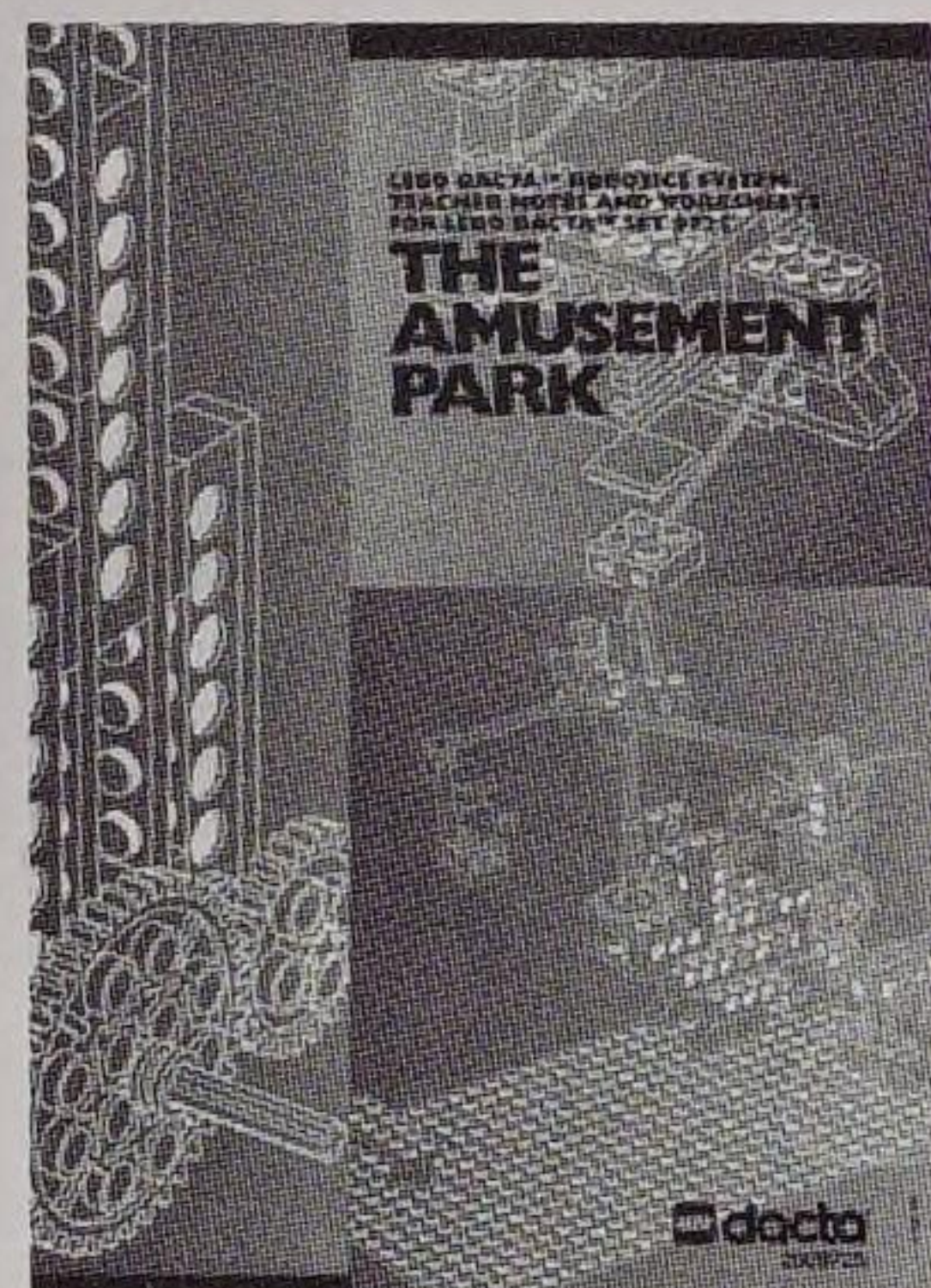
**EXCLUSIVE**

## LEGO DACTA AMUSEMENT PARK SET #979725

Fun set contains enough bricks, sensors, motors, and leads to build one of four models – a ghost train, a bumper car, a merry-go-round, or a tour bus – as part of a larger class project. One set contains pieces to build one model at a time. It is designed so that students can work at a range of ability levels, enabling them to progress as their skills develop.

Set contains 293 elements, including two 9-volt motors, one light sensor, two touch sensors (without wires), six wires, full-color building instructions for each of the four models, and a plastic case with trays. ROBOLAB software and RCX brick sold separately.

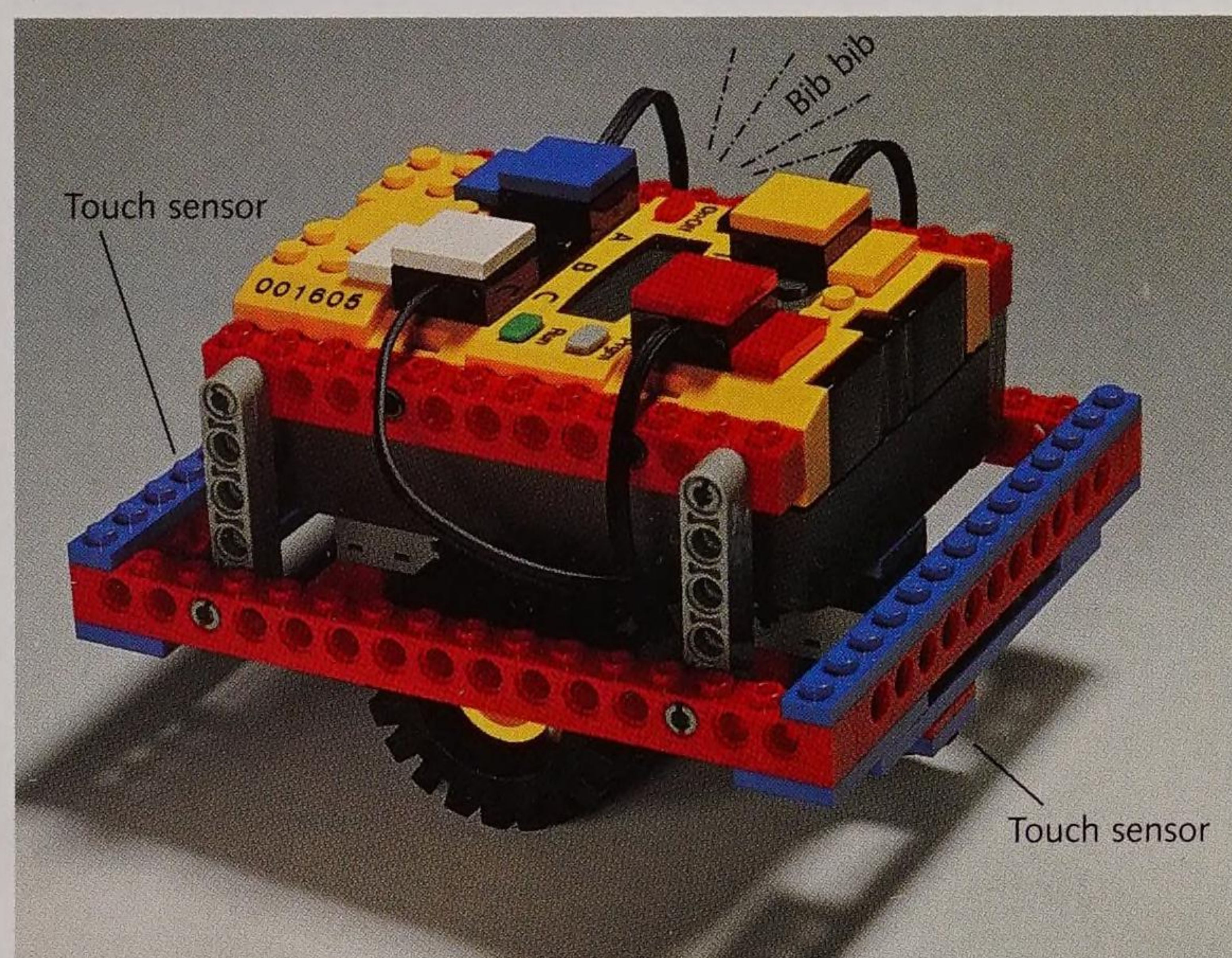
**D979725—\$110**



## ACTIVITY PACK FOR AMUSEMENT PARK SET

Thirty worksheets guide students step-by-step through a series of activities using the *Amusement Park Set*. Also includes instructions on how to use the worksheets, curriculum references, and theme ideas.

**D999725—\$25**



## Bumper Car

Program the two motors to make it move forward, backward, and turn. Add the touch sensor to make it move when you press the sensor. Put the touch sensor and bumper together. Program the bumper car to move around and respond when it runs into something. Add beeps/sounds when the touch sensor is pressed.



The Amusement Park Set is an ideal complement to school projects, inviting pupils to recreate all the fun of a real-life fair.

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## STANDARDS

These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site: [www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

## Ideal Classroom Setup for 24 students

- For current ROBOLAB Starter System users
- 12 - Amusement Park Building Sets (D979725) OR
- 12 - Cities and Transportation Building Sets (D979723)
- 1 - Amusement Park Activity Pack (D999725) OR
- 1 - Cities and Transportation Activity Pack (D909723)

**Total: \$1,345**  
plus shipping



## 8 Team Challenge



### ROBOLAB TEAM CHALLENGE SET

The team is divided into two groups: the “Design and Build” group and the “Program and Test” group. Within these two groups, each group member is assigned a role with specific responsibilities, according to the needs of the challenge:

- A Team Manager, who oversees activities and makes sure the project proceeds on schedule.
- A Communications Specialist, who is in charge of the team's journal, markets the competition, and addresses team questions to the Team Manager, who will communicate with the teacher, if necessary.
- A Materials Specialist, who keeps track of hardware, software, bricks, and building materials; distributes them to other team members; and keeps track of inventory.
- An Information Specialist, who takes charge of all incoming information (literature and worksheets) and reads aloud or summarizes this information for the team.

#### OBJECTIVES:

- To build teamwork skills with a real-world simulation of robotics and robotic systems
- To enable students to apply their knowledge of science and technology in a meaningful and interesting context
- To give students an opportunity to improve their designing, building, and programming skills
- To challenge students by means of classroom competitions
- To enable students to experience, in a nonthreatening way, the challenges of working under time and material constraints
- To show students how a team's success depends of the team members' ability to cooperate

#### BENEFITS:

##### To the teacher:

- Introduction of teamwork skills with easy classroom management techniques
- Opportunity to reinforce and extend students' knowledge of science and technology
- Full attention and motivation of students
- A difficult topic made accessible and easy to teach
- Minimum preparation time, due to structured activities and copy masters

##### To the students:

- A fun and challenging way to learn both teamwork and robotics
- No student is left out – each has a specific role to play
- Student-directed, so students learn the decision-making process and success is up to them

**Call Toll Free!**  
**800-362-4308**





## TEAM CHALLENGE SET #979790 **New**

Ideal for introducing older students to the art of cooperation and team management. The *Team Challenge Set* enables groups of four or five to simulate real-life robotics and robotic systems. Each member of the group assumes a role and works with the others to solve the set assignments. Time and material constraints add to the challenge. ROBOLAB Software sold separately.

D979790—\$227.75

The *Team Challenge Set* contains 715 items, including the following:

- 1 RCX brick
- 1 infrared transmitter with cable for PC and Mac
- 2 gear motors
- 1 light sensor
- 2 touch sensors
- 6 wires
- Full-color building instructions
- Sorting tray
- Element survey
- Sturdy plastic storage box with transparent lid
- Activity Pack

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## STANDARDS

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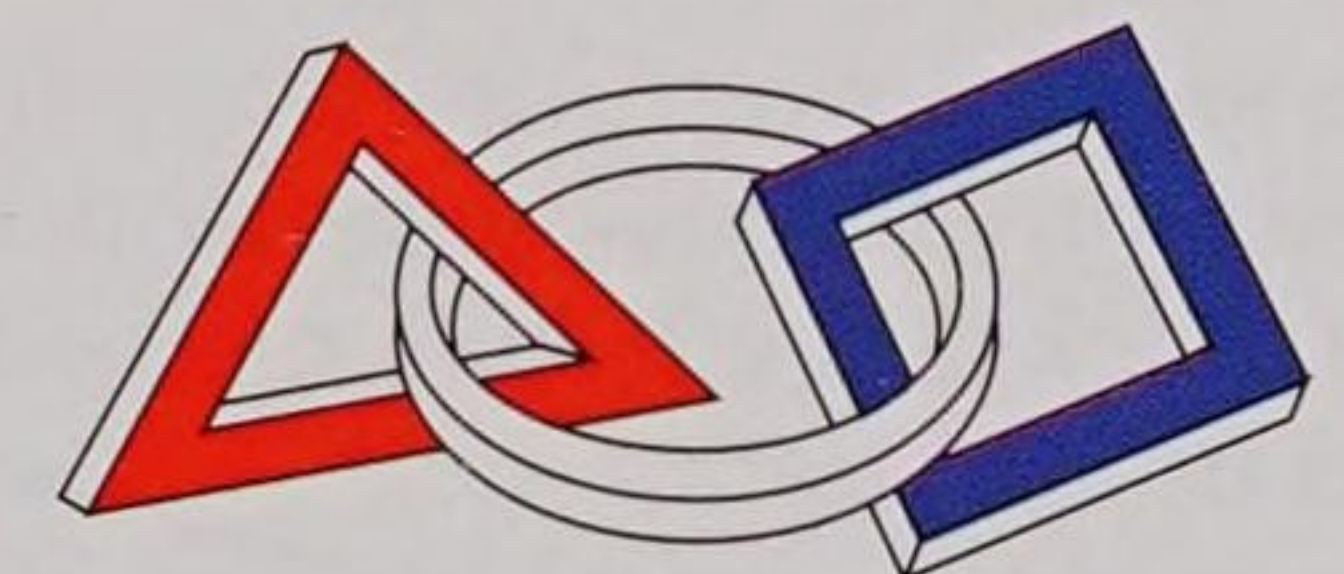
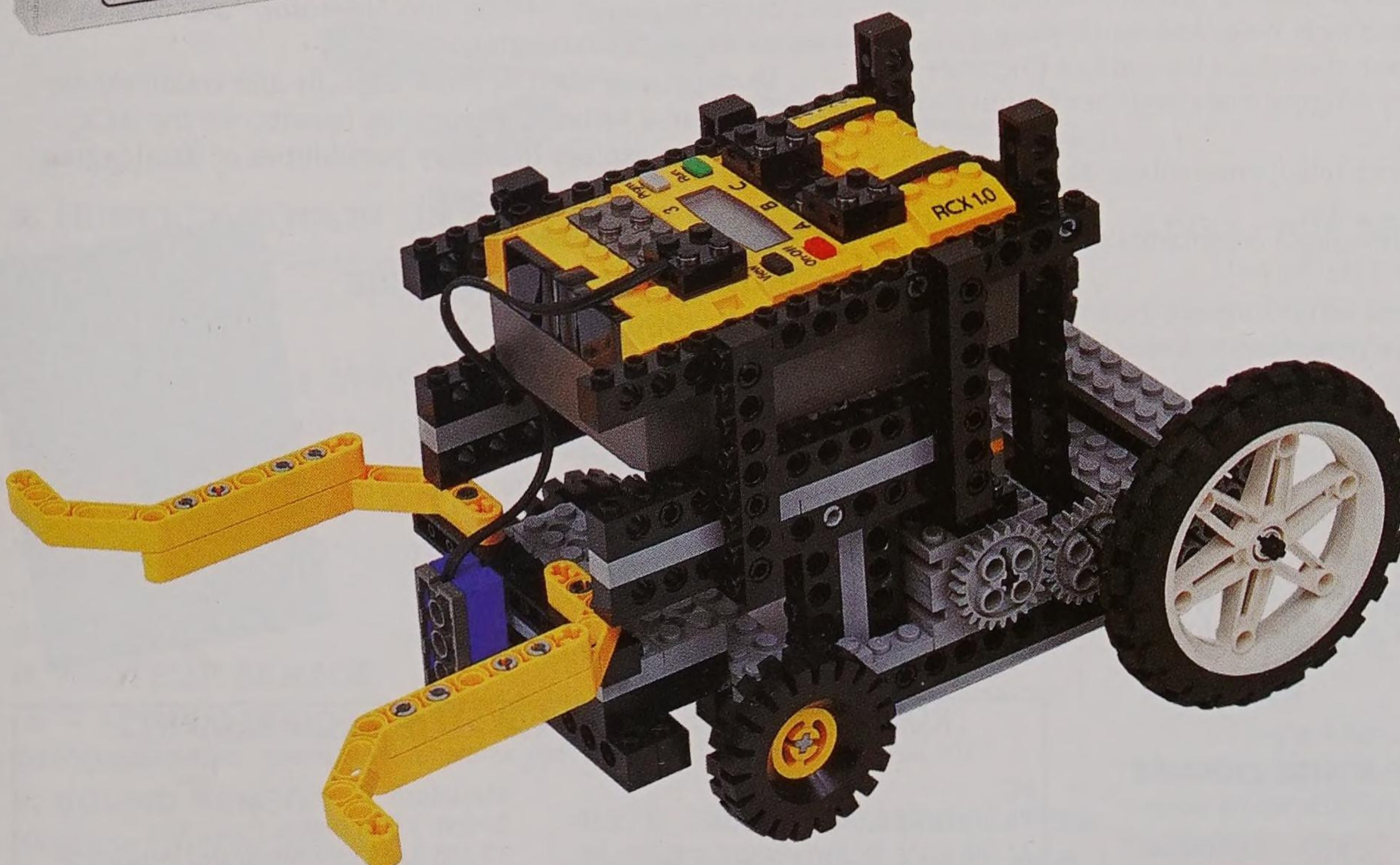
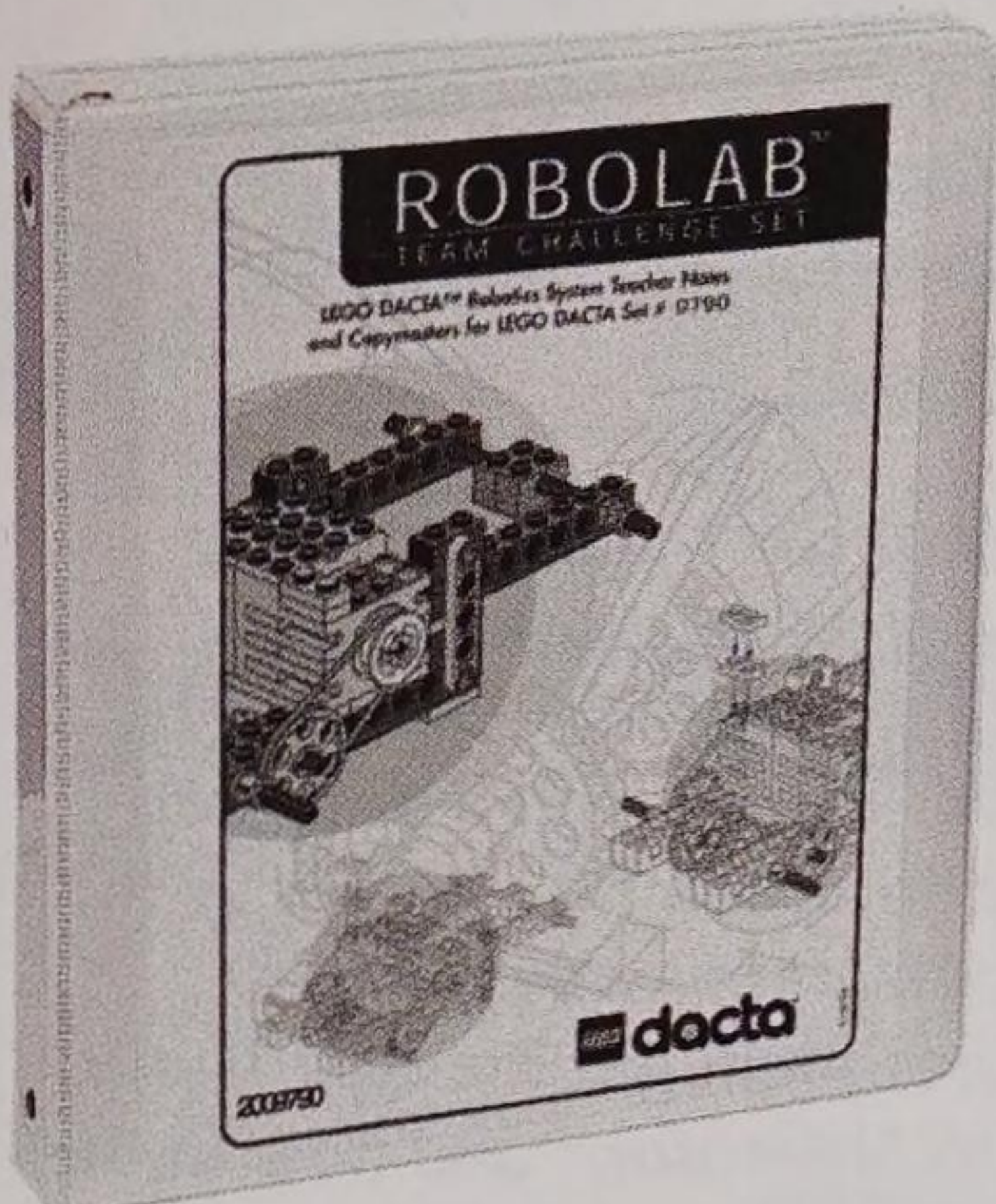
[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

## EXCLUSIVE **New**

### TEAM CHALLENGE ACTIVITY PACK #909790

This activity pack includes specifications for a minimum of 10 challenges. There is one main challenge (the Can-Do contest) that is used to teach the members of a team the process of organizing, selecting their roles, building, programming, and testing their robot within the given time frame. Once they are familiar with the process, they can apply their knowledge to a number of other challenges described.

D909790—\$25



# FIRST

For Inspiration and Recognition of Science and Technology

Official ROBOLAB building set for First LEGO League competition.  
[www.legomindstorms.com/fli](http://www.legomindstorms.com/fli)

## Ideal Classroom Setup for 24 students

- 1 - ROBOLAB Programmer Software & Site License (D900060) pg. 13
- 1 - ROBOLAB Teacher's Guide Part I (D900052) pg. 13
- 7 - Team Challenge Sets (D979790)
- 1 - Team Challenge Activity Pack (D909790)
- 7 - Yellow Gear Block (D979918) pg. 106

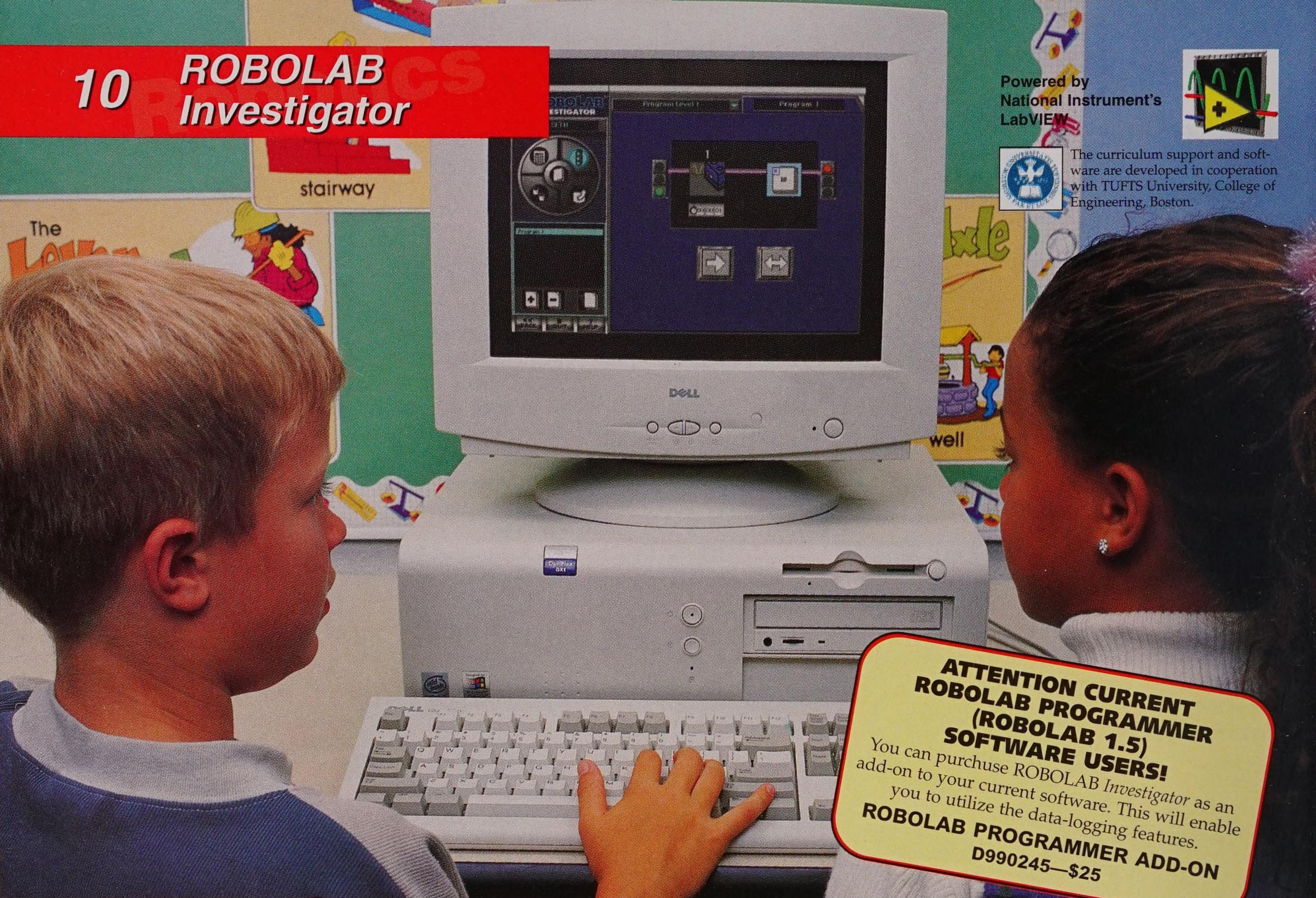
**Total: \$1,773.50**  
plus shipping

**PITSCO** **LEGO** **dacta**  
PARTNERS IN INNOVATIVE EDUCATION





The curriculum support and software are developed in cooperation with TUFTS University, College of Engineering, Boston.



**ATTENTION CURRENT  
ROBOLAB PROGRAMMER  
(ROBOLAB 1.5)  
SOFTWARE USERS!**

You can purchase ROBOLAB *Investigator* as an add-on to your current software. This will enable you to utilize the data-logging features.

**ROBOLAB PROGRAMMER ADD-ON**  
D990245—\$25

**New** **EXCLUSIVE**

**ROBOLAB INVESTIGATOR SOFTWARE FOR RCX**

- Works on PCs and Macs.
- Has same powerful software for many ages and levels of ability.
- Constantly builds on previously learned concepts.
- Is a quick and effective method to write, modify, and download a program, and upload data.
- Has many multitasking and high-level programming features including Internet control, while loops, sounds, feedback, help, and much more.
- Data logging of sensors so users can graph data from the sensors (includes five levels of programming functionality ranging from beginner to university level).
- Internet control of RCX robots so users can teleoperate robots at other locations.
- Direct control of the RCX so users can download commands to an RCX for immediate response.
- Journal and presentation features so users can document their work and print the pages or create HTML pages or presentation slides to show their work.
- Students invent their own project, design how they will carry it out, run the activity, record their data, and present their results.
- Bring real-life situations to data-logging activities for all levels of students.
- Includes ROBOLAB Programmer Software (Pilot and Invent Modes).

Along with the ROBOLAB *Investigator* software, a searchable Invent & Investigate database with activities that users (teachers and students) can download, Web site links of related topics, and other information will be online.

**ROBOLAB INVESTIGATOR CD (ONLY)**

D900051—\$49

**ROBOLAB INVESTIGATOR SOFTWARE & SITE LICENSE**

D900061—\$179

**FreeFax™ Orders!**  
**888-534-6784**

Your students are already proficient at constructing LEGO models. Now, give them an entirely new and refreshing adventure – **data logging** with ROBOLAB!

ROBOLAB software provides icon-oriented or object-oriented programming designed to maximize features of the RCX brick in an easy-to-use programming environment. Familiar drag-and-drop techniques highlight the software in two previous modes, "Pilot" and "Inventor," and now in the newest mode, "Investigator."

Students will learn to think logically and creatively as they program a series of commands (events) for the RCX. They also can explore the many possibilities of datalogging.

**New** **EXCLUSIVE**

**ROBOLAB TEACHER'S GUIDE  
PART II #900053**

This new teacher's guide is the second of two books on the ROBOLAB software. This book describes how to use the *Investigator* data-logging component of ROBOLAB *Investigator*, the newest version of the software.

D900053—\$25



**ROBOLAB INVESTIGATOR SYSTEM REQUIREMENTS**

\* You have the option of loading just *Programmer* or *Programmer* and *Investigator*

**PC**

Windows 95 or better  
32 MB RAM for Investigator installed on top of Programmer  
16 MB RAM for Programmer only  
1 serial communications port

**Macintosh**

System 7.5 or better  
32 MB RAM for Investigator installed on top of Programmer  
16 MB RAM for Programmer only  
1 serial communications port





## A NEW APPROACH TO DATA LOGGING FROM LEGO DACTA

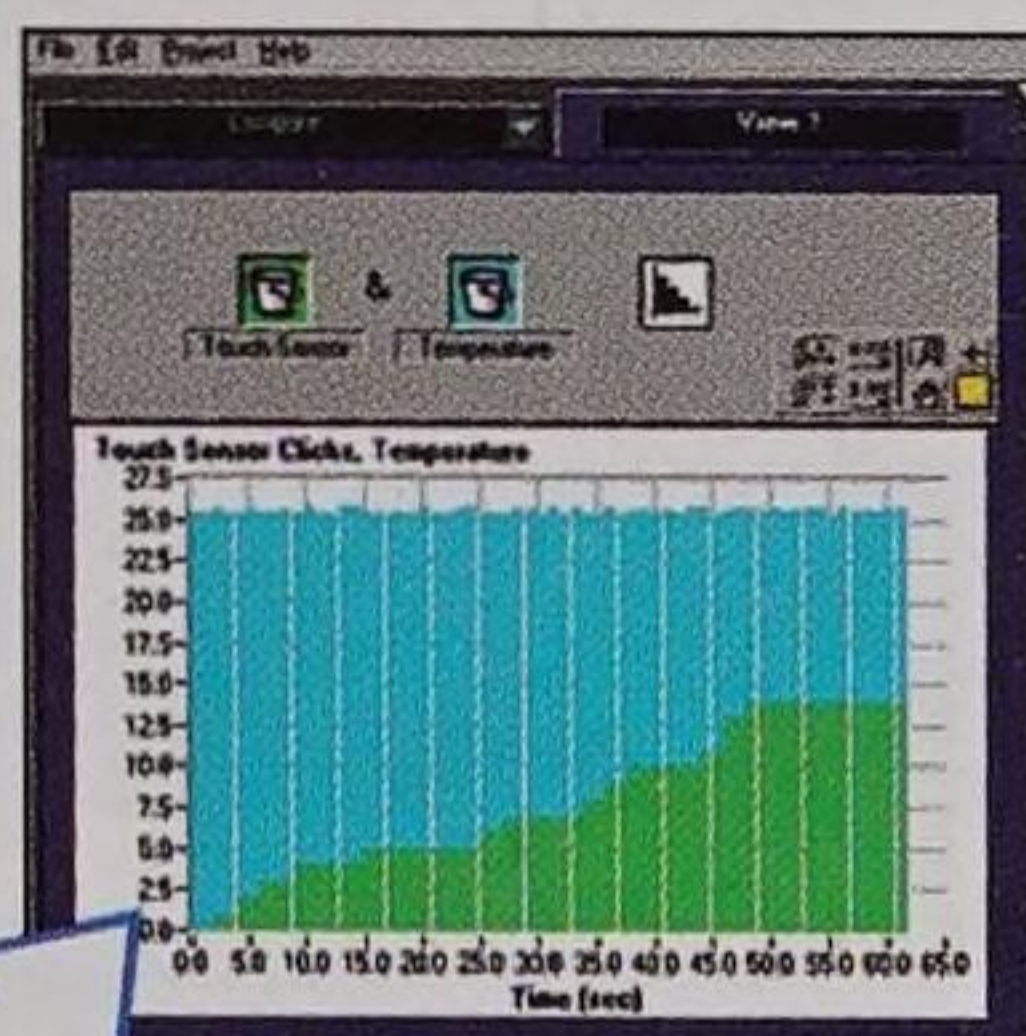
## ROBOLAB Investigator

11

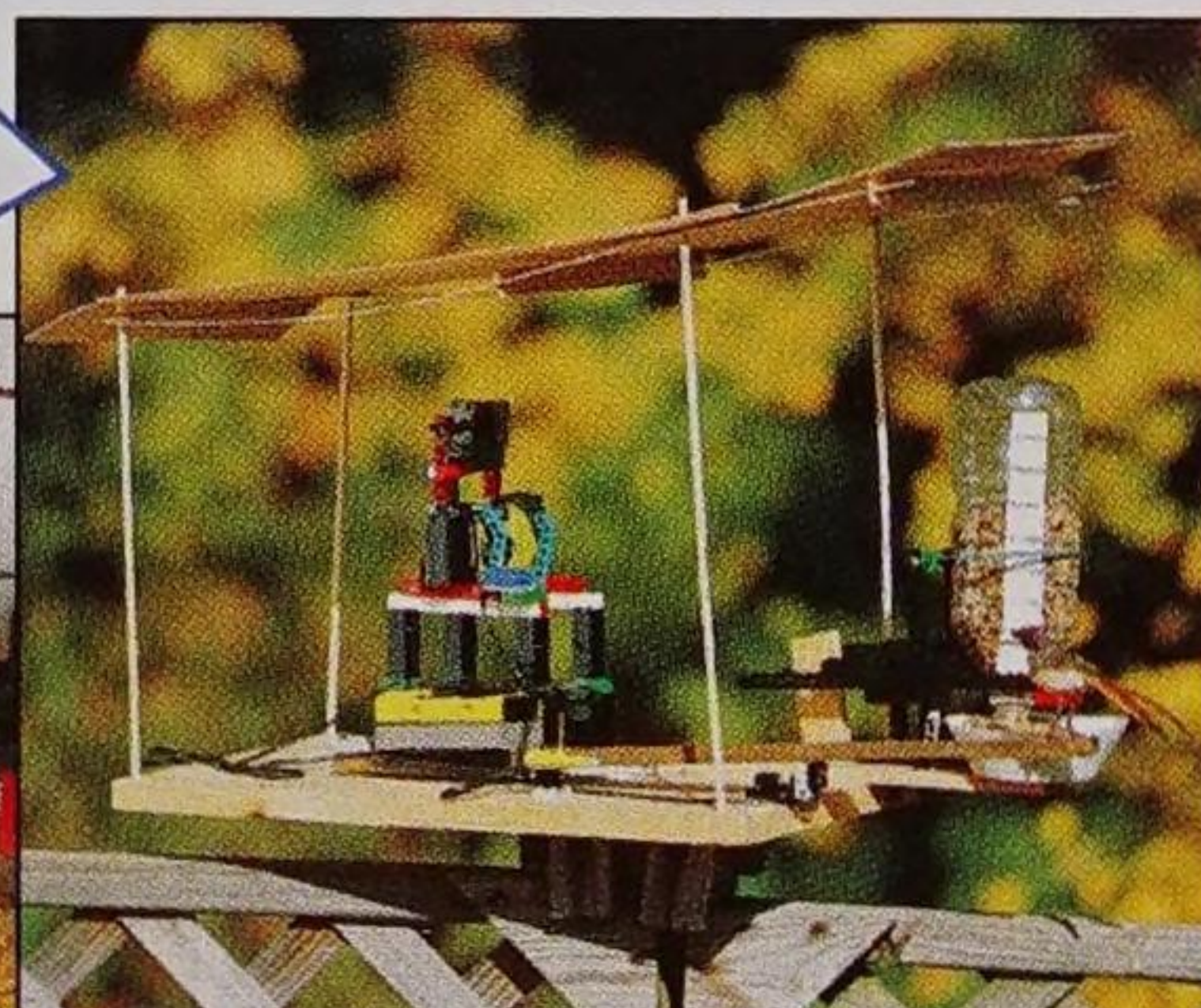
Students are naturally curious and ask many questions. They love science, technology, and other activities in which they create and explore. Using the power of the LEGO RCX programmable brick, the ROBOLAB software, and their own imaginations, students INVENT instruments so they can INVESTIGATE and find answers to their questions. They become scientists and engineers, using technology to learn in a powerful way.

*What types of birds live in my backyard? How often do they eat? Do they eat the most in the morning? Which food do they like the best? Which type of bird eats the most?*

Look! My graph shows these birds eat mostly at this time.



Wood supports the LEGO frame and mechanisms and the plastic food holder.



When the camera takes a picture, my program also logs the time of day and amount of light.

A bird lands here, presses the touch sensor, food comes out, and a picture is taken.

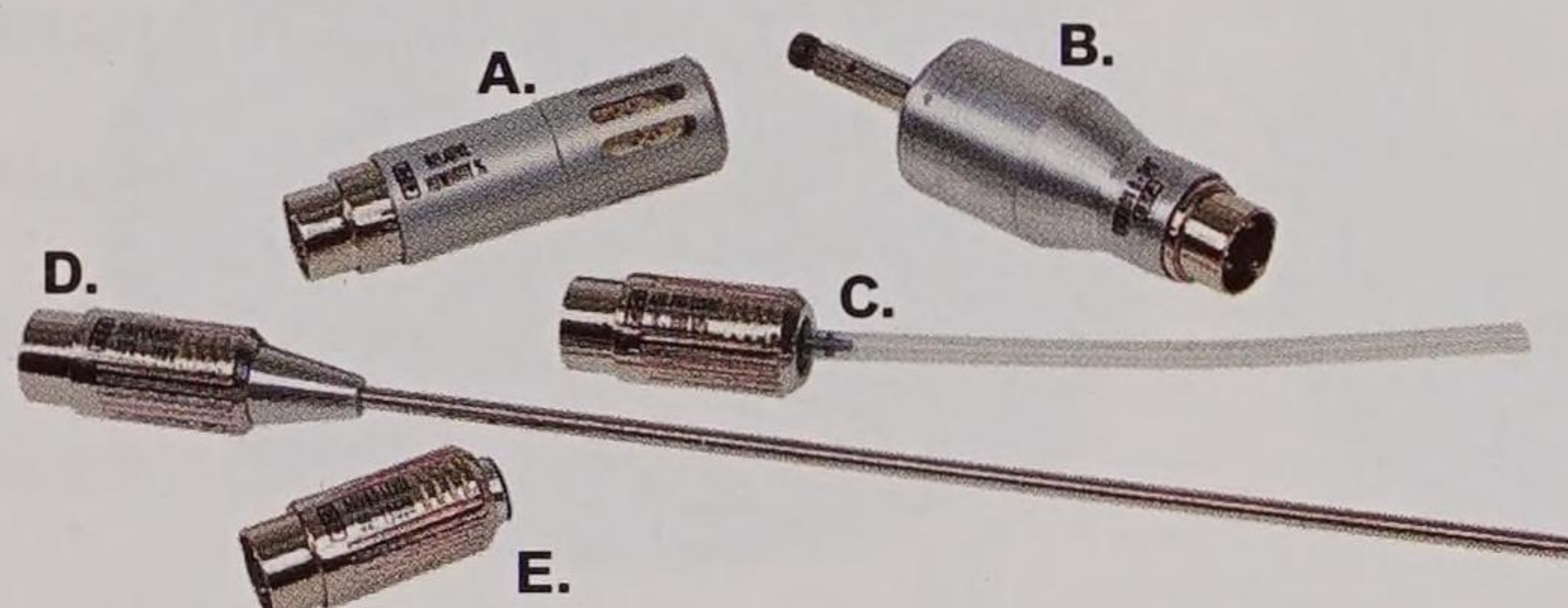
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## STANDARDS

These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site: [www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

## DCP SENSORS **New**

DCP produces data-logging products that are used throughout the world.



### A. HUMIDITY SENSOR

0-100% relative humidity over a temperature range of -20°C to +80°C  
**D990250—\$179**

### B. AIR PRESSURE SENSOR

0-200 kPa (approx. 0-30 psi)  
**D990253—\$135**

### C. MOTION SENSOR

360-degree rotation, 340 degrees measured  
**D990248—\$95**

### D. PROTEMP SENSOR

-30°C to +130°C  
**D990249—\$49**

### E. SOUND SENSOR

50dBA to 100dBA; frequency response is nominal A-weighted  
**D990247—\$75**

### PH SENSOR (NOT PICTURED)

Works with pH electrodes with an output of 59.1 mV per unit of pH at 25°C.

**D990251—\$75**

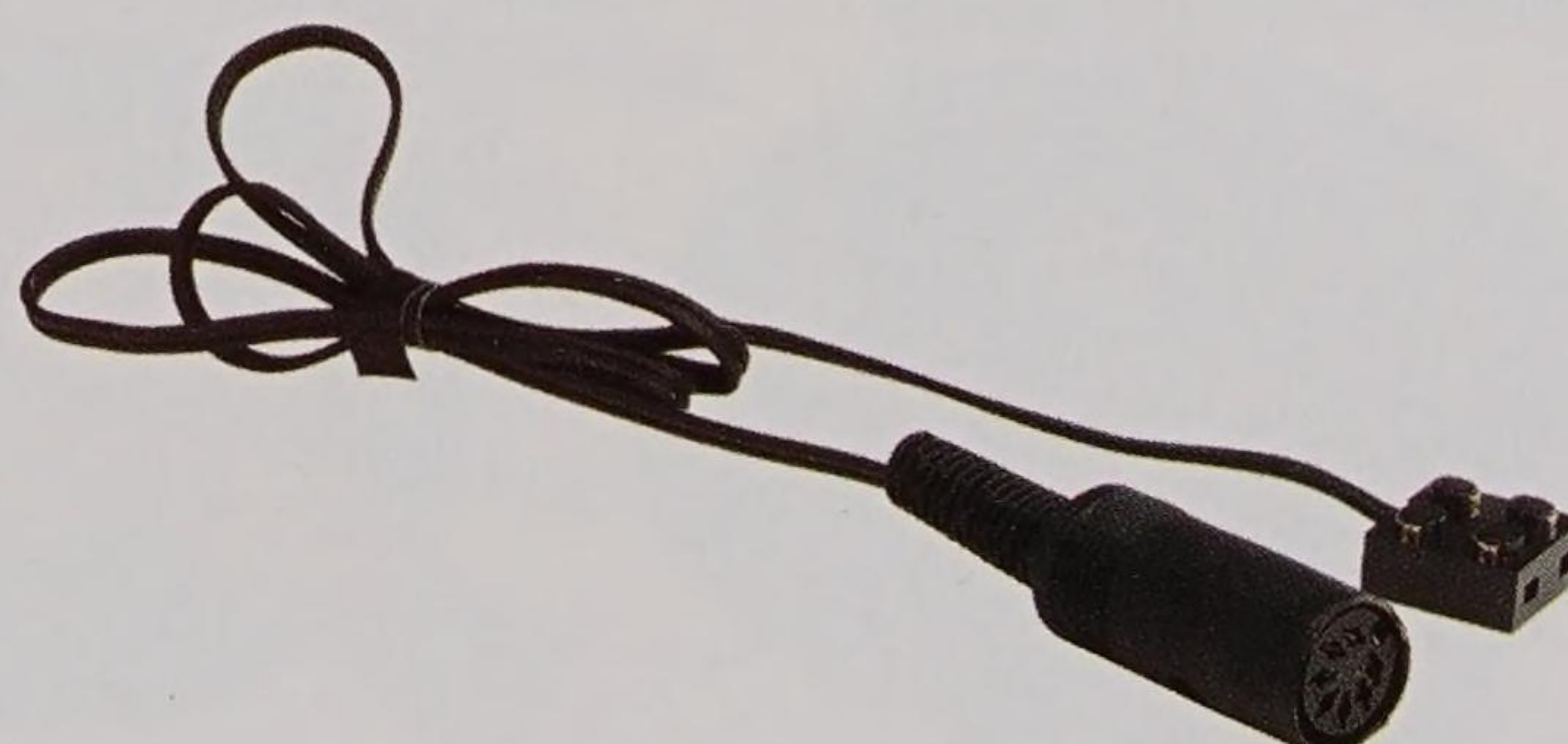
### VOLTAGE SENSOR (NOT PICTURED)

+/- 25 volts DC; resistance over probes: 410 ohms  
**D990252—\$49**

### DCP SENSOR PACK

All seven of the above sensors!  
**D990254—\$625**

**NOTE: EACH DCP SENSOR LISTED ABOVE MUST USE A LEGO - DCP SENSOR ADAPTER (#779917) SHOWN ABOVE.**



### LEGO - DCP SENSOR ADAPTER **New**

This adapter allows you to connect DCP's range of sensors directly to the RCX. Using the ROBOLAB Investigator software, you can now include a broader range of sensors into your robotics and science activities. Remember, each RCX can only have three sensors connected at one time.  
**D779917—\$53.75**

### ROBOLAB INVESTIGATOR CD, TEACHER'S GUIDE PART II, AND LEGO - DCP SENSOR ADAPTER

This package includes everything required to begin data logging with the RCX. Just choose the sensors you need to conduct your science experiment.  
**D990246—\$121**



The RCX microcomputer is the heart of the ROBOLAB system. It receives programs from the ROBOLAB software (PC or Mac) via an infrared computer link, storing up to five programs at a time. The RCX then runs the programs when activated.

Up to three inputs can be used by the RCX to sense events in its environment, which in turn can determine what the three outputs will do to react to the sensing data.

The RCX is great for modeling and experimenting with robotics, machines, vehicles, manufacturing systems, . . . anything that can be controlled using inputs and outputs!

**EXCLUSIVE**

#### INFRARED TRANSMITTER AND CABLE PACK (PC AND MAC) #979713

Connects to a serial COM port on the computer. Allows the user to download programs from a computer into the RCX. We recommend purchasing one per computer.

**D979713—\$26**

**EXCLUSIVE**

#### THE RCX, ROBOTICS COMMAND SYSTEM #979709

A programmable LEGO computer. Comes with five built-in programs. Use the ROBOLAB software to create and download new programs into the RCX memory.

**D979709—\$124.25**

**EXCLUSIVE**

#### ADAPTER #979833

(Optional. Not included in Workstation Pack) Allows the RCX to operate from a main power supply rather than from batteries. We recommend purchasing one per RCX.

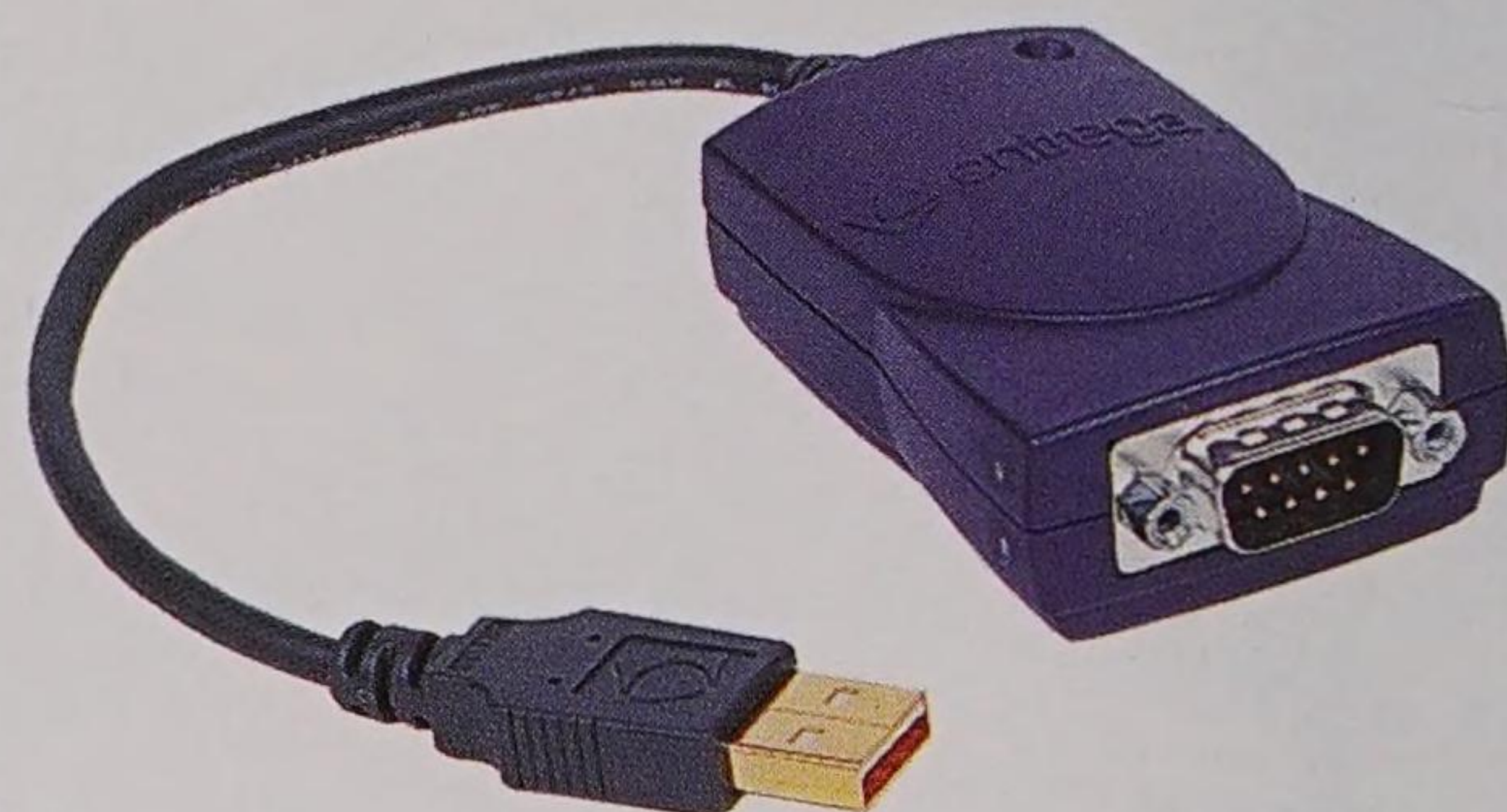
**D979833—\$19.50**

**New**

#### ENTREGA USB ADAPTER

The USB adapter from Entrega allows you to connect the *Infrared Transmitter* to your iMac or iBook (using a Mac cable). You will need one for each computer you will be using. Software for connection is included.

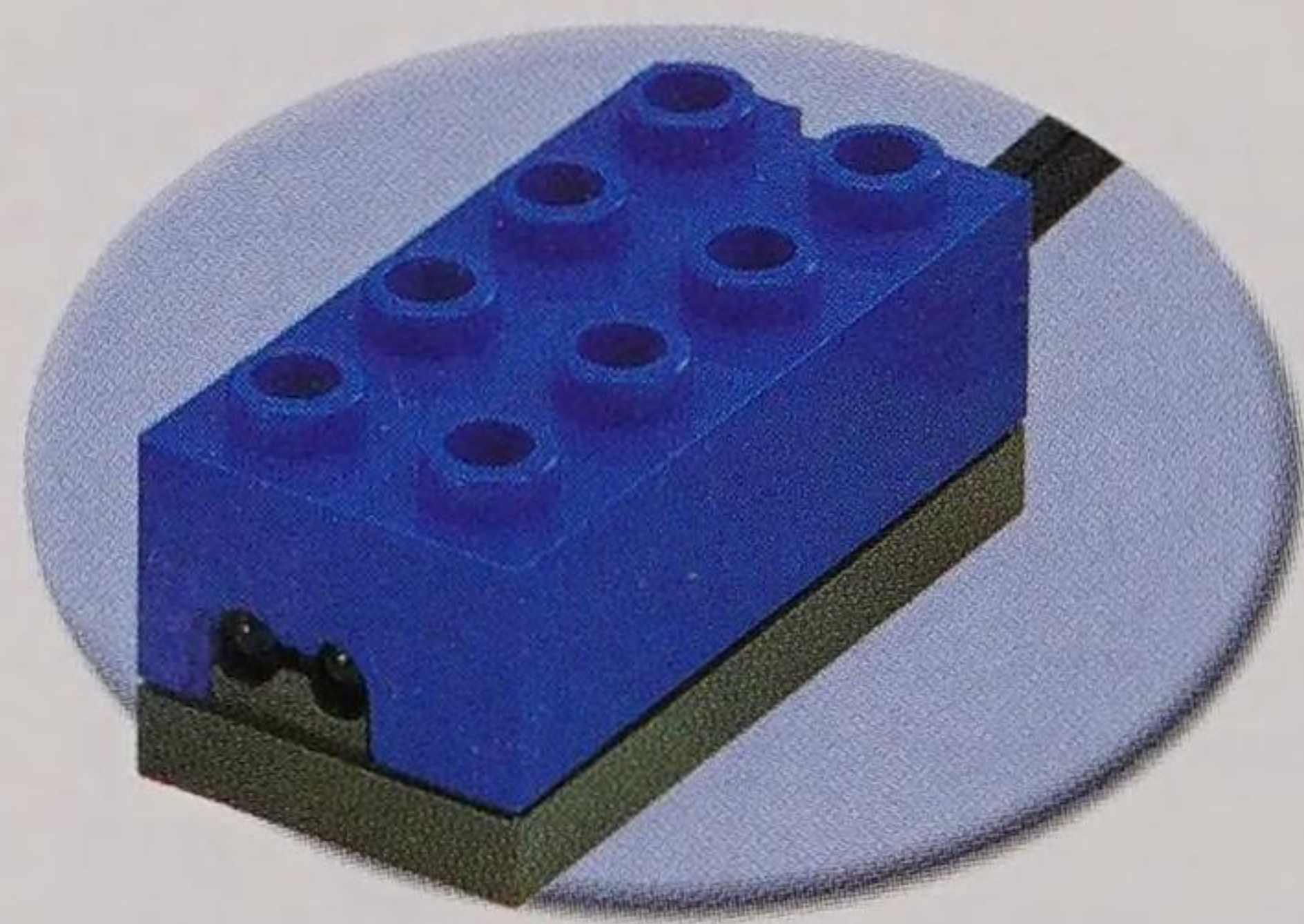
**D990243—\$59**

**New**

#### LEGO SENSOR PACK

Includes one each of the following sensors: *Temperature, Light, Rotation, and Touch.*

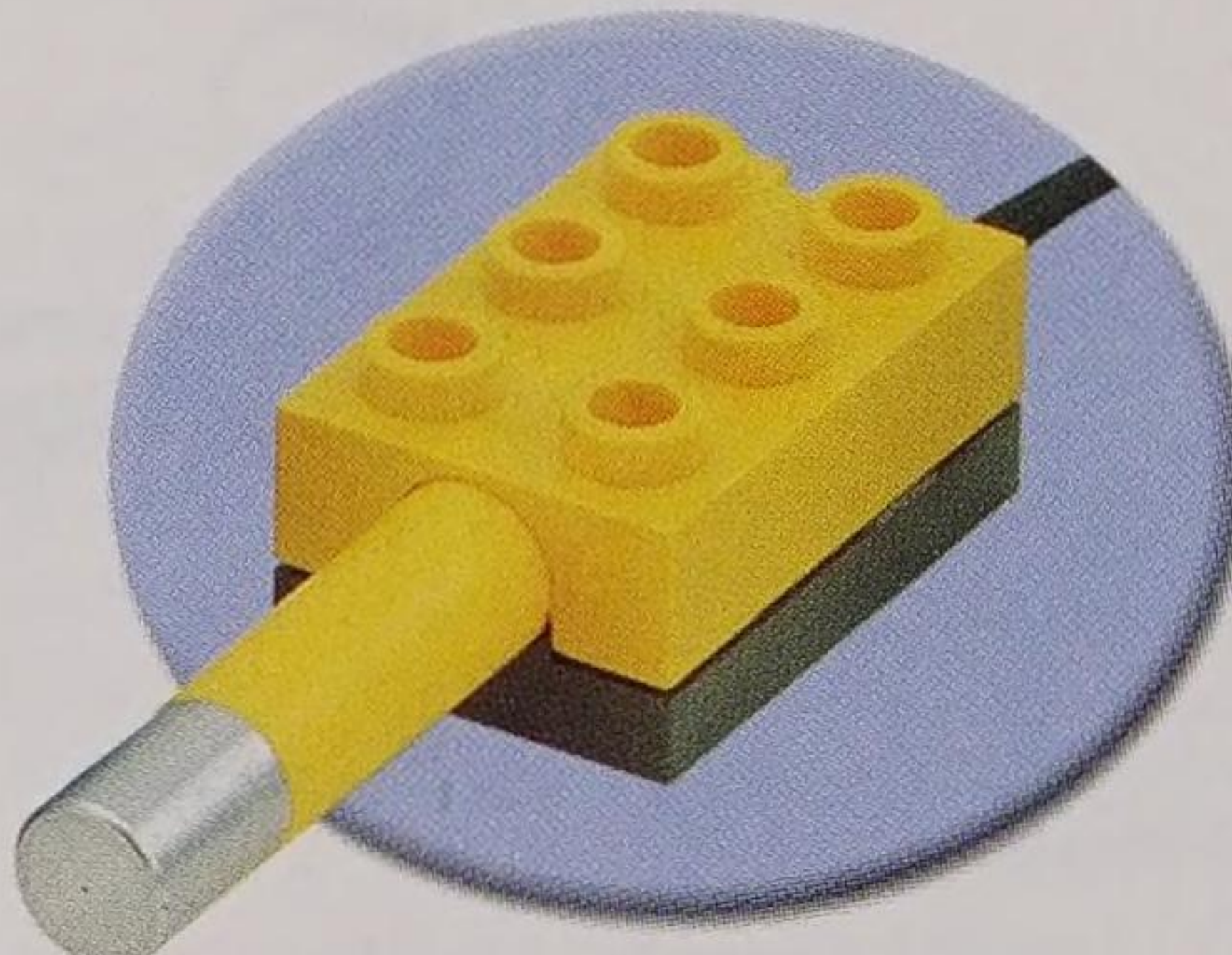
**D900098—\$70**



#### LIGHT SENSOR

0.6 to 760 Lux

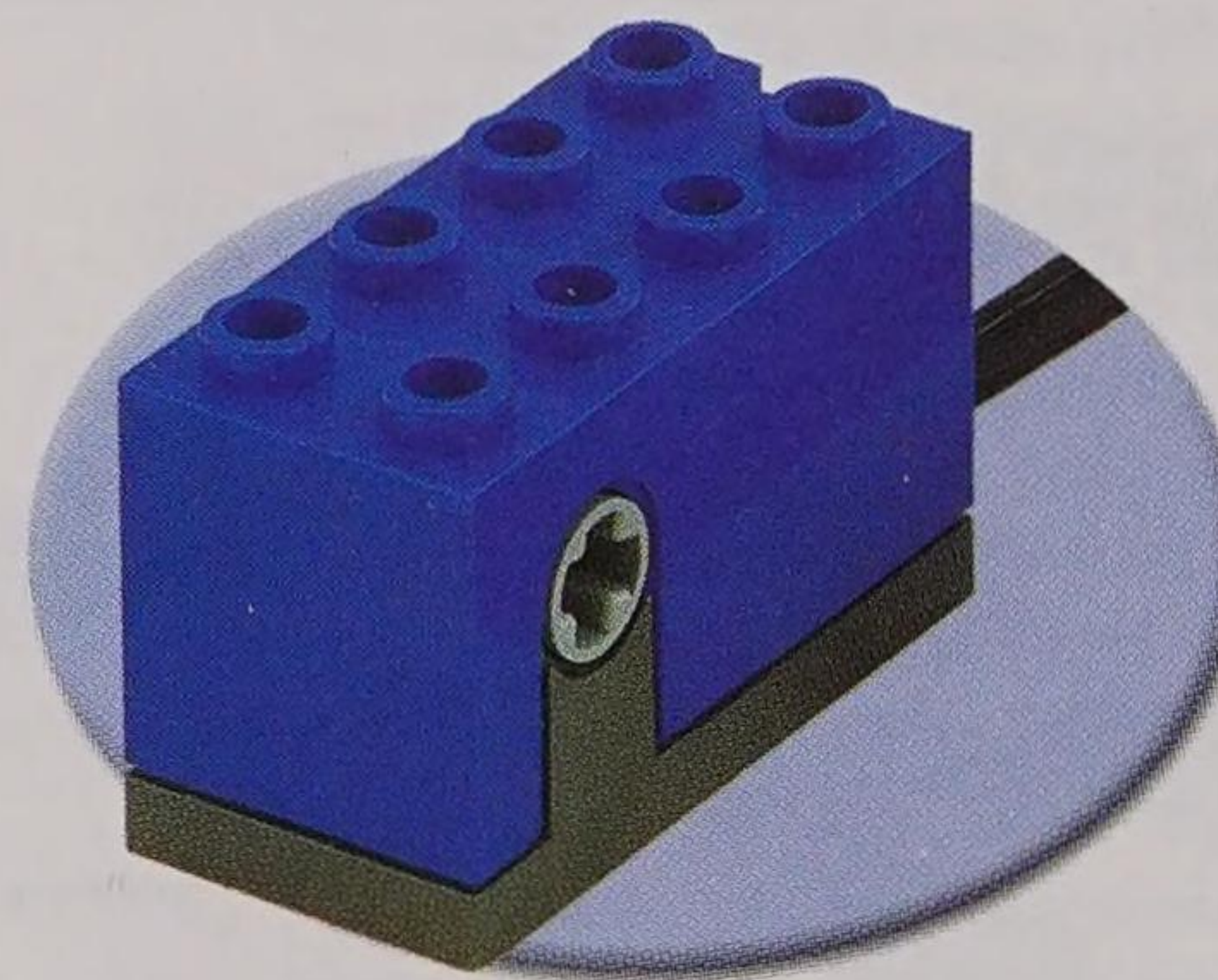
**D779758—\$22**



#### TEMPERATURE SENSOR

-20°C to +50°C

**D779755—\$27.50**



#### ROTATION SENSOR

16 positions per rotation; max. 500 RPM

**D779756—\$16.50**



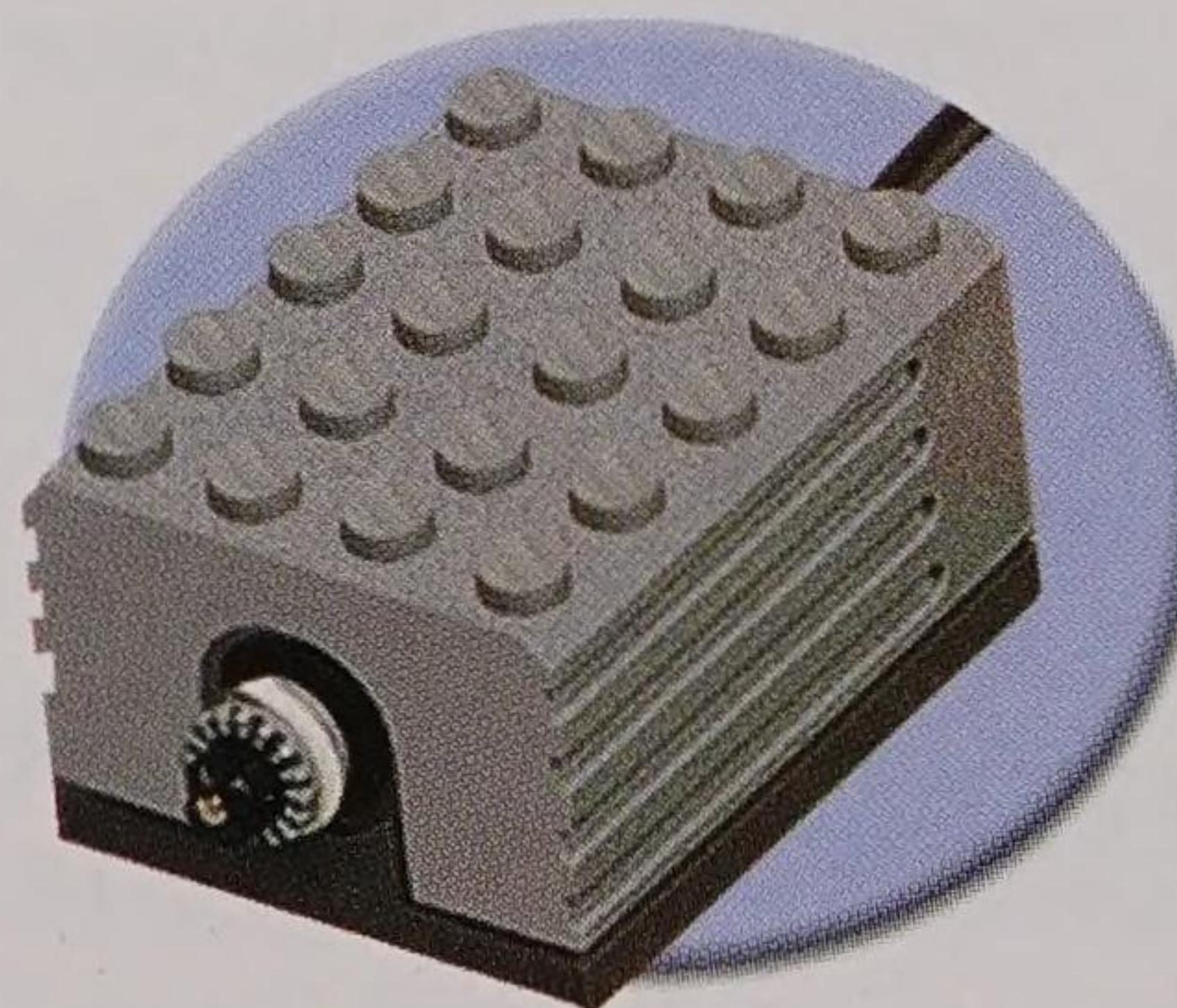
#### 1 X 2 LAMP BRICK 9V (WHITE) 2 PCS

**D970005—\$10**



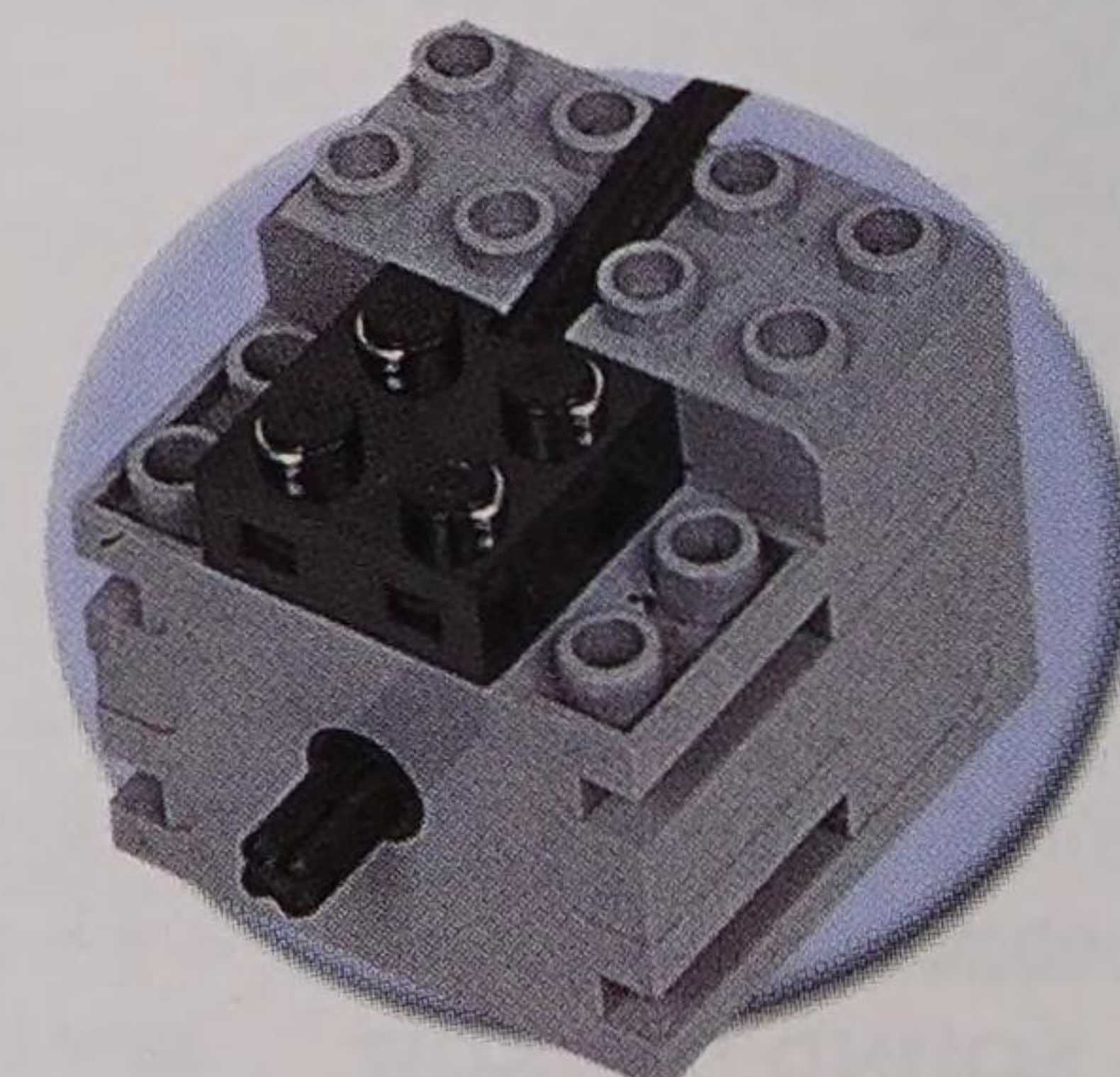
#### TOUCH SENSOR AND LEADS (9-VOLT)

**D779757—\$11**



#### MICROMOTOR

**D775119—\$10.25**



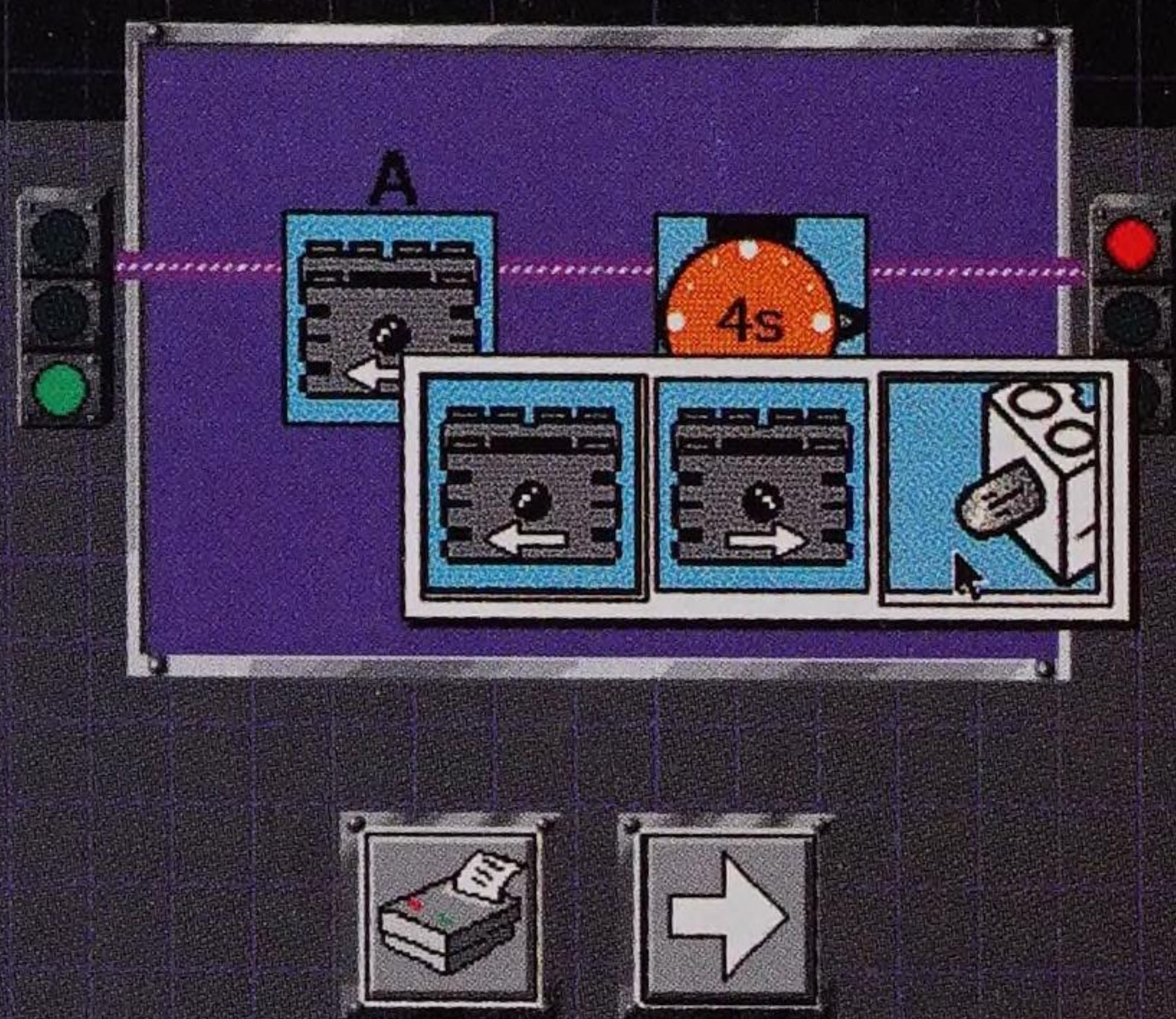
#### 9V MOTOR W/GEAR REDUCTION

**D775225—\$16.25**

**Order Online!**

[www.pitsco-legodacta-store.com](http://www.pitsco-legodacta-store.com)





**EXCLUSIVE**

Powered by  
National Instrument's  
LabVIEW



The curriculum support and software are developed in cooperation with TUFTS University, College of Engineering, Boston.

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## ROBOLAB PROGRAMMER SOFTWARE FOR RCX

The ROBOLAB *Programmer* software incorporates an incremental approach for students to learn about programming. Each level of "Pilot" and "Inventor" adds features that allow students to write increasingly more detailed and difficult programs. The flowchart-like programs are logical and easy to understand. The "Pilot" level gives students a more structured environment to begin to explore the concepts. "Inventor" gives students more freedom in how they build their programs. The software is based on National Instrument's LabVIEW, which was used by NASA to control the Mars Rover. It is also used by thousands of companies for data logging, control, and automation tasks. This makes the software the perfect link from school to work. Detailed help menus are always available on-screen to explain what the icons are and what they do. **Note: Does not include Robolab Investigator software (page 10). If in doubt, buy Investigator. It has it all!**

**ROBOLAB PROGRAMMER CD (ONLY)**

**D900050—\$27.50**

**ROBOLAB PROGRAMMER CD & USER'S GUIDE**

**D990085—\$50**

**ROBOLAB PROGRAMMER SOFTWARE & SITE LICENSE**

**D900060—\$110**

**ROBOLAB PROGRAMMER CD (only), SPANISH VERSION**

**D200050—\$27.50**

**ROBOLAB PROGRAMMER SOFTWARE & SITE LICENSE, SPANISH VERSION**

**D200060—\$110**

## ATTENTION CURRENT ROBOLAB PROGRAMMER (ROBOLAB 1.5) SOFTWARE USERS!

You can purchase ROBOLAB *Investigator* as an add-on to your current software. This will enable you to utilize the data-logging features.

**ROBOLAB PROGRAMMER ADD-ON**  
**D990245—\$25**

**New**

## LEGO MINDSTORMS REMOTE CONTROL #779738

The LEGO *Mindstorms Remote Control* enables remote control of robots or models by activating the RCX brick at a distance of up to twenty feet or seven meters. When aimed directly at the brick, the remote control activates the brick by using infrared light, operating the same way as a television remote control. It enables the operator to control one, two, or all three motor/output ports directly, or to run any of the five RCX programs at a distance. It also has a beeper button, which indicates whether the RCX brick is within range of the remote control, and a stop button. The remote control operates on two 1.5-volt AA batteries.

**D779738—\$20.75**



**Professional staff development  
available in most states.  
Call for details. 1-800-362-4308**

**EXCLUSIVE**

## ROBOLAB TEACHER'S GUIDE PART I #900052

Introductory level manual with hardware and software support. Enables quick starts with ROBOLAB.

**D900052—\$25**

**SPANISH VERSION**

**D200052—\$25**





# 14 Red Rover

## The Planetary Society's RED ROVER, RED ROVER PROJECT



### RED ROVER, RED ROVER II: MARS SITE PACKAGE

In the future much of space will be explored by robots. In 2001, NASA will make another trip to Mars with a vehicle similar to the rover that originally landed there in 1998. Assist your students in simulating this experience in a hands-on way.

#### The Mars Site Package includes:

- Red Rover, Red Rover software version 4.0
- All necessary cables and connections
- 4 LEGO DACTA tires
- Guide to Exploring Mars book
- Teacher Suggestion and Activity Guide
- Software User's Guide
- One-year membership to Red Rover, Red Rover Team (includes one-year membership to The Planetary Society)
- Technical Support provided by Pitsco LEGO Dacta

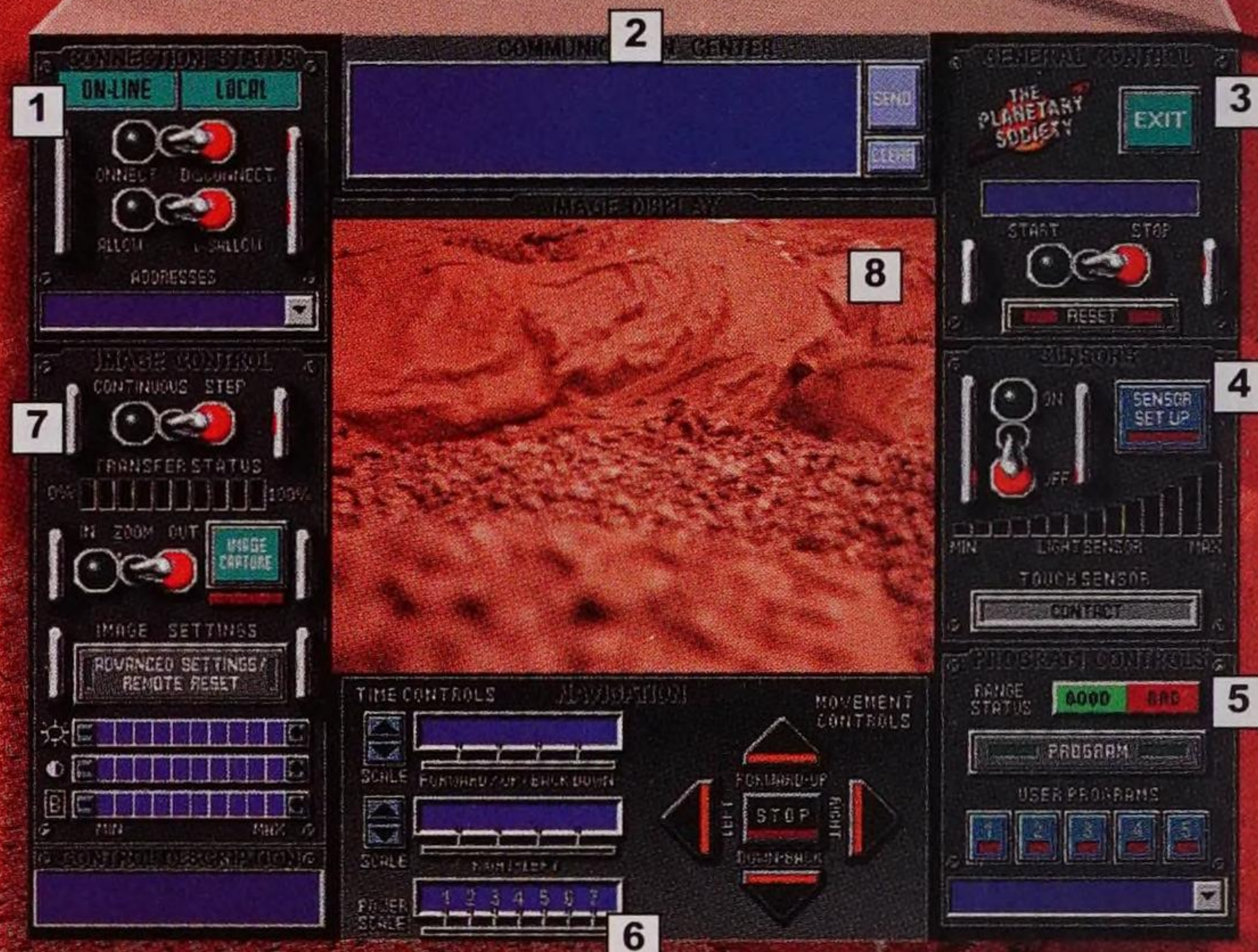
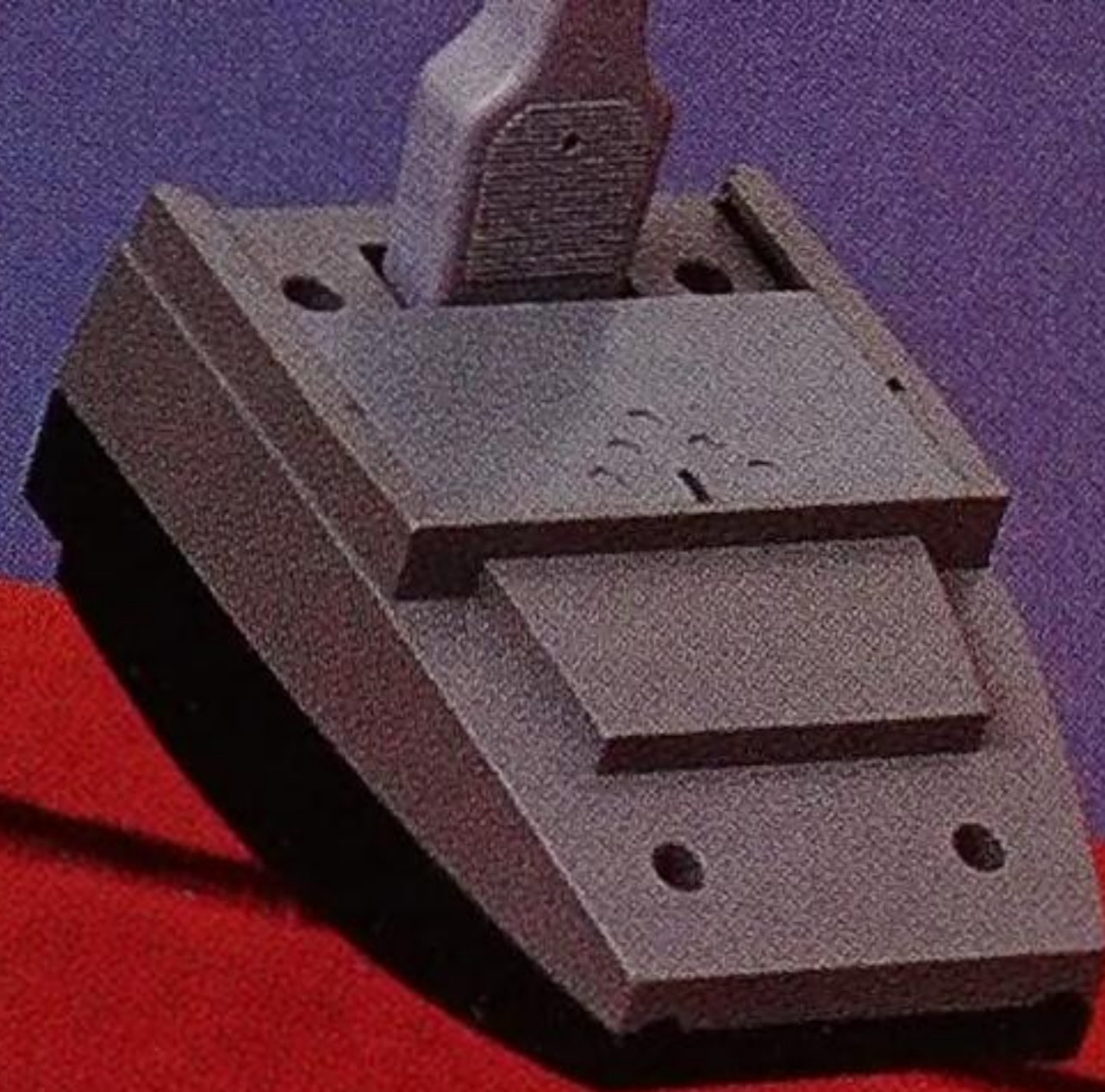
#### You'll also need:

- LEGO DACTA Team Challenge Set (#979790)
- PC Computer (Pentium, 90 MHz) with Windows 95 or 98
- Internet access (needed to explore other Mars sites)
- **QUICKCAM PRO CAMERA (D756402—\$229)**
- OR
- **INTEL CREATE & SHARE CAMERA (D990239—\$145)**

D990205 Mars Site Package (PC only)—\$195

D979790 Team Challenge Set—\$227.75

**Call Toll Free!**  
**800-362-4308**



**1. CONNECTION STATUS**

**2. COMMUNICATION CENTER**

**3. GENERAL CONTROLS**

**4. SENSORS**

**5. PROGRAM CONTROLS**

**6. NAVIGATION**

**7. IMAGE CONTROL**

**8. IMAGE DISPLAY**

### Reach beyond your classroom . . .

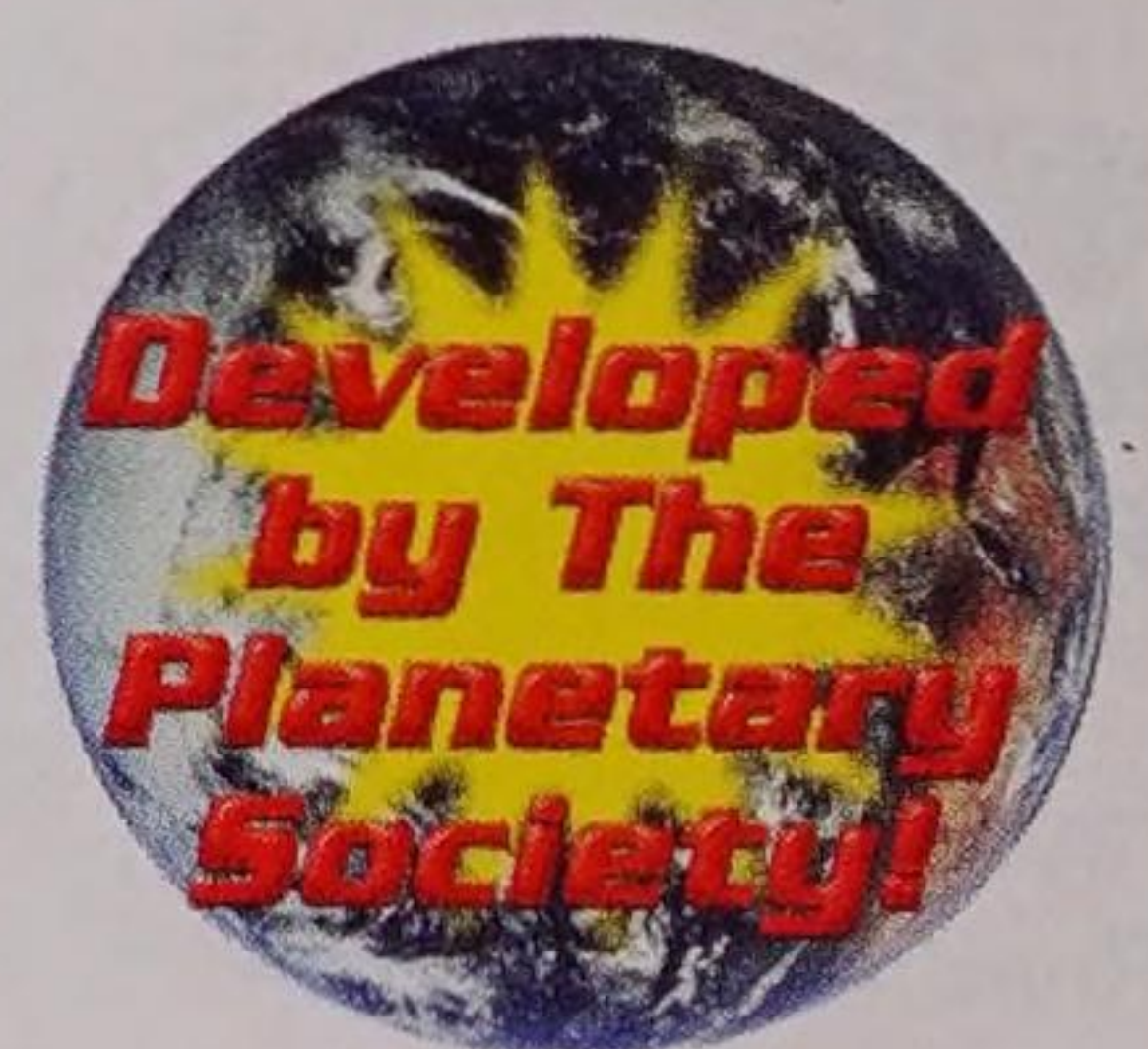
This exciting product, in the spirit of the NASA Mars mission, gives students the opportunity to discover robotics and engineering as they design and build their LEGO rovers. They learn about planetary exploration by building their own Mars terrains in their classrooms. They explore their world from the vantage point of a remote camera – just like the NASA scientists! They reach beyond their own classrooms, via Internet, and drive rovers built in New York, Los Angeles, Toronto, Sydney, and any of the new sites appearing around the world!

As an option, your site can be explored by other students from around the world as well!

### Your students will work like NASA scientists and engineers as they:

- Design and build a roving robot from LEGO DACTA Team Challenge Set building elements.
- Remotely control their rover with the computer as it roams a student-built Martian terrain. A miniature black-and-white camera provides a view of the alien world.
- Control other rovers at other sites around the world via Internet connection.

The Red Rover, Red Rover Project was developed by The Planetary Society in cooperation with Visionary Products, Inc. and the Center for Intelligent Systems at Utah State University. Red Rover, Red Rover is a trademark of The Planetary Society.



The Red Rover Mars Site Package works in conjunction with the LEGO DACTA Team Challenge Set (#979790), which is sold separately. See page 8 or 15 for more information on the Team Challenge Set.

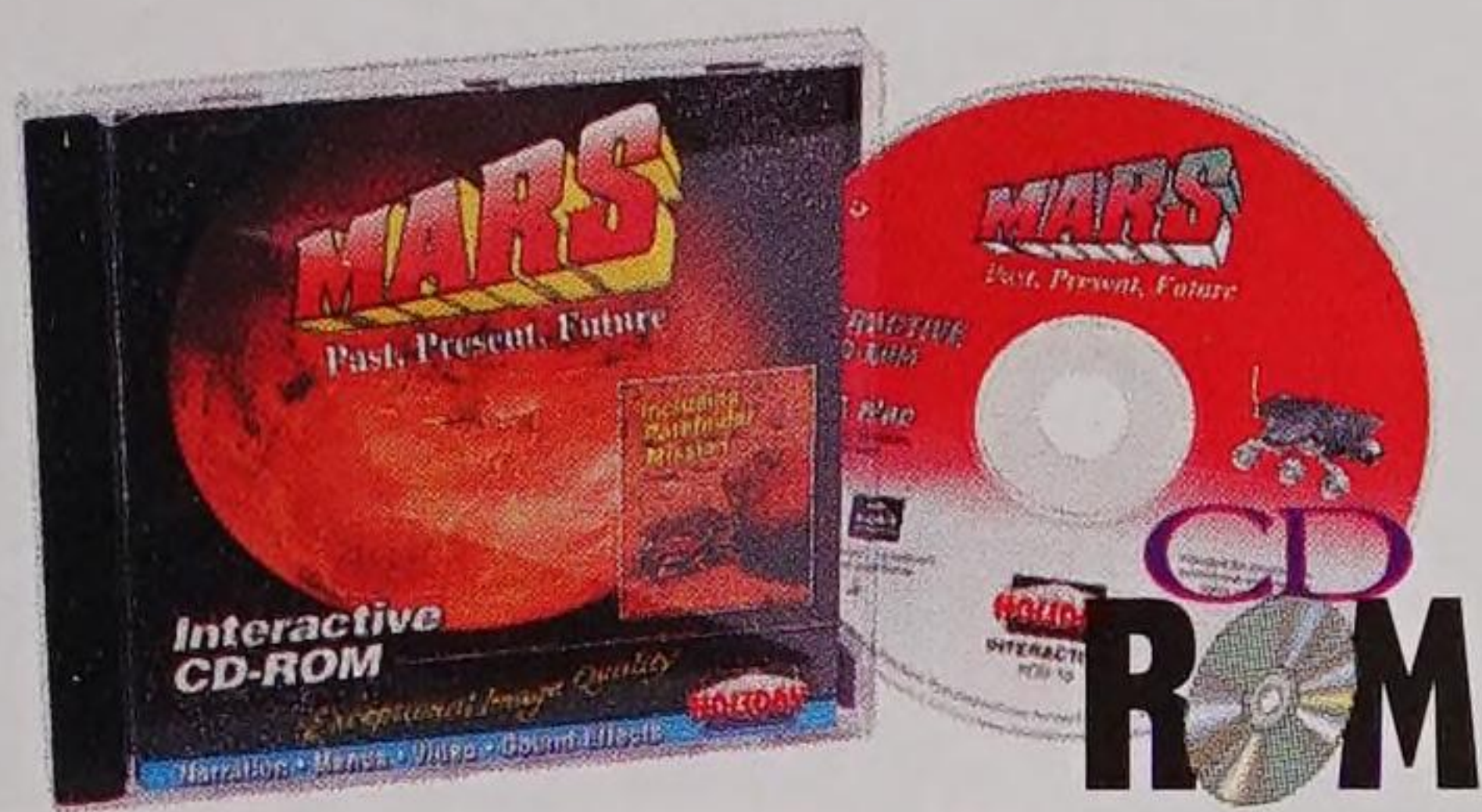


**New****TEAM CHALLENGE SET #979790****EXCLUSIVE**

Ideal for building Mars Rovers! The *Team Challenge Set* enables groups of four or five to simulate real-life robotics and robotic systems. Each member of the group assumes a role and works with the others to solve the set assignments. Time and material constraints add to the challenge. The set contains 715 elements including: 1 RCX, 1 *Infrared Transmitter* with cable for PC or Mac, 2 gear motors, 1 light sensor, 2 touch sensors, wires, full-color building instructions, sorting tray, and element survey.

**D979790—\$227.75****EXISTING CONTROL LAB USERS**

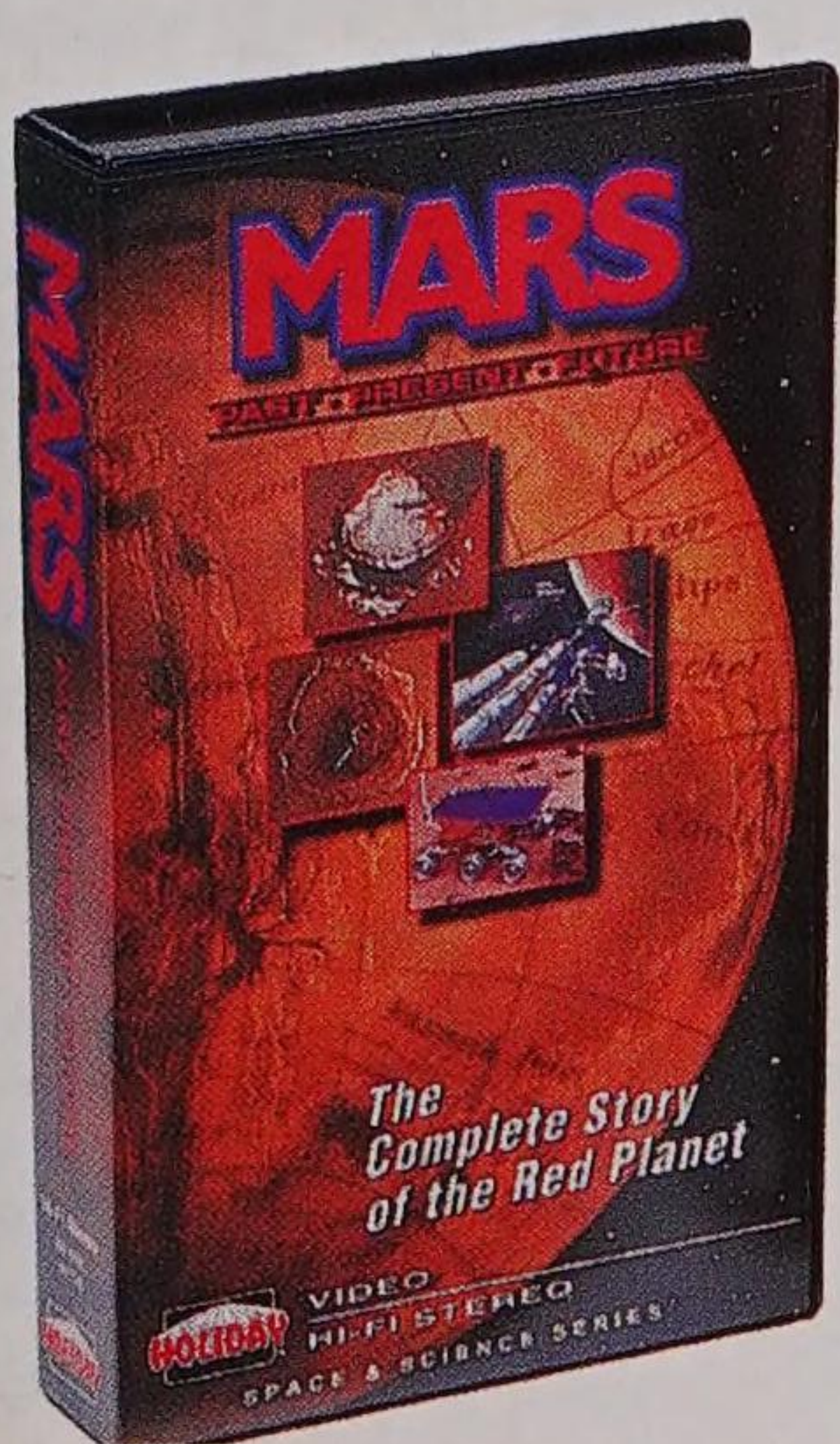
*Red Rover, Red Rover II: Mars Site Package* can also be used in conjunction with the *LEGO DACTA Control Lab Starter Pack* (#970943). See page 16.

**New****MARS: PAST, PRESENT, FUTURE**

Students can use this CD-ROM as a 50-minute continuous-play

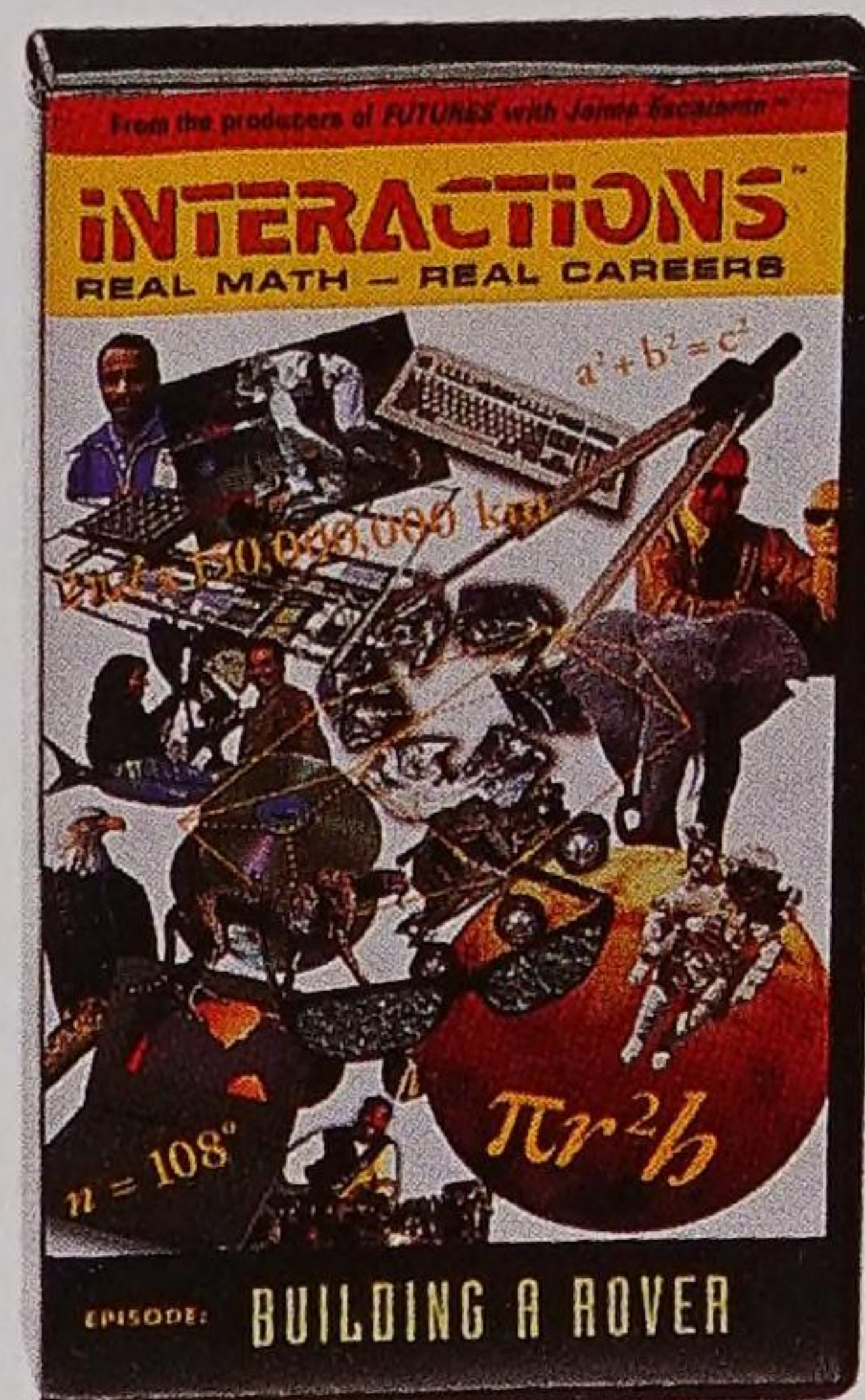
program, or, alternatively, they can explore Mars at their own pace, using the interactive menus to travel through six segments dealing with Martian history, exploration, and future plans, including colonization and resource utilization. Stunning graphics and clear narrative make this an excellent supplement for a science, space, or technology curriculum.

Level: Intermediate-Adult

**D990216 Mac/Win CD-ROM—\$24.95****New****MARS: PAST, PRESENT, FUTURE**

This video, subtitled *The Complete Story of the Red Planet*, describes what we currently know about Mars, based on the *Mars Pathfinder* and *Mars Global Surveyor* missions. It also speculates on future missions and what questions they will answer. Actual photographs of the Martian surface are interspersed with computer simulations and explanations from Martian experts. Time: 46 minutes.

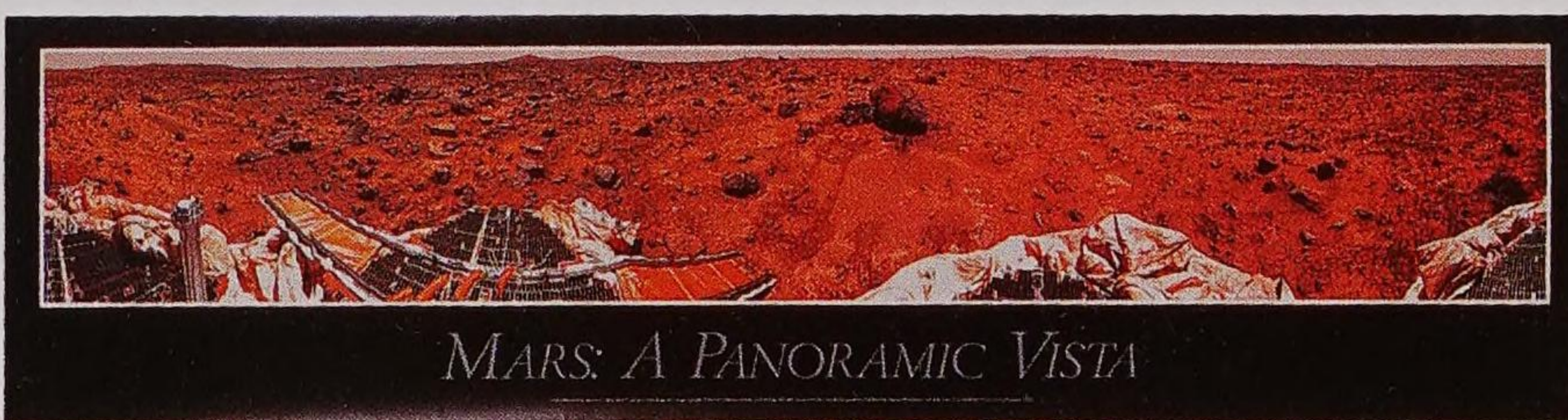
Level: Intermediate-Adult

**D990215—\$24.95****INTERACTIONS:  
BUILDING A ROVER**

What kind of vehicle can traverse the surface of the Moon or Mars? It must be one part robot, one part all-terrain vehicle, one part remote-controlled car. It must be able to think for itself, even repair itself! At NASA's testing ground, a team of scientists demonstrate their vehicle, *Rocky 2*. Building a rover will spark your students' ingenuity while demonstrating the importance of mathematical concepts like geometry and patterns. Includes a teacher tip sheet with suggested vocabulary and activities.

Time: 15 minutes.

Level: Middle School-High School

**D754461—\$49.95****MARS: A PANORAMIC VISTA POSTER****D756064—\$7****ROBOLAB**

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**ROBOLAB**

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**STANDARDS**

These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site:

[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

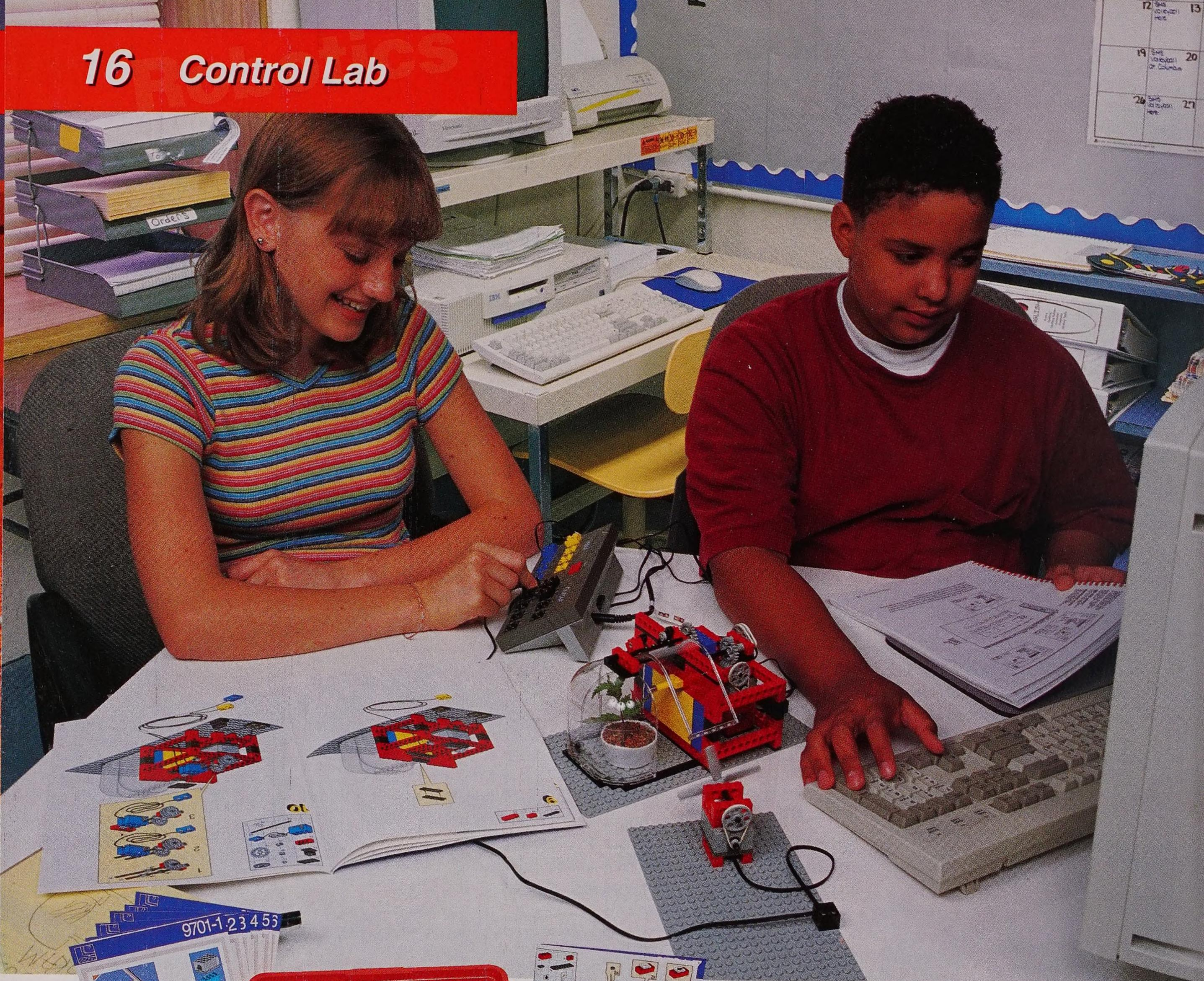
**Ideal Classroom Setup  
for 24 students**

- 1 - Red Rover Mars Site Package (D990205)
- 8 - ROBOLAB Team Challenge Sets (D979790)
- 1 - Interactions - Building A Rover Video (D754461)
- 1 - Mars - Panoramic Vista Poster (D756064)
- 1 - Mars - Past, Present, Future Video (D990215)
- 1 - Intel Create & Share Camera (D990239)

**Total: \$2,243.90**  
plus shipping



## 16 Control Lab



### CONTROL LAB STARTER PACK

The LEGO DACTA *Control Lab* is available in a *Starter Pack* that provides everything you need for one computer station. It includes:

- LEGO DACTA *Control Lab Building Set* (#979701) with 527 pieces including motors, lamps, sensors, snap-lid case, and building instructions for seven models
- *Serial Interface and Adapter* (#979751) – the computer controls the models through this interface
- LEGO DACTA *Control Lab Software* (#979704/#979705)
- *Serial Cable* (#979768/#979769)
- *Control Lab Curriculum Pack* (#970998) that includes *Setup Guide* and *Introductory Explorations, Quick Start Guide, Technology Investigations and Inventions*, and the *Reference Guide*

**D970942 Control Lab Starter Pack (Macintosh)—\$709**

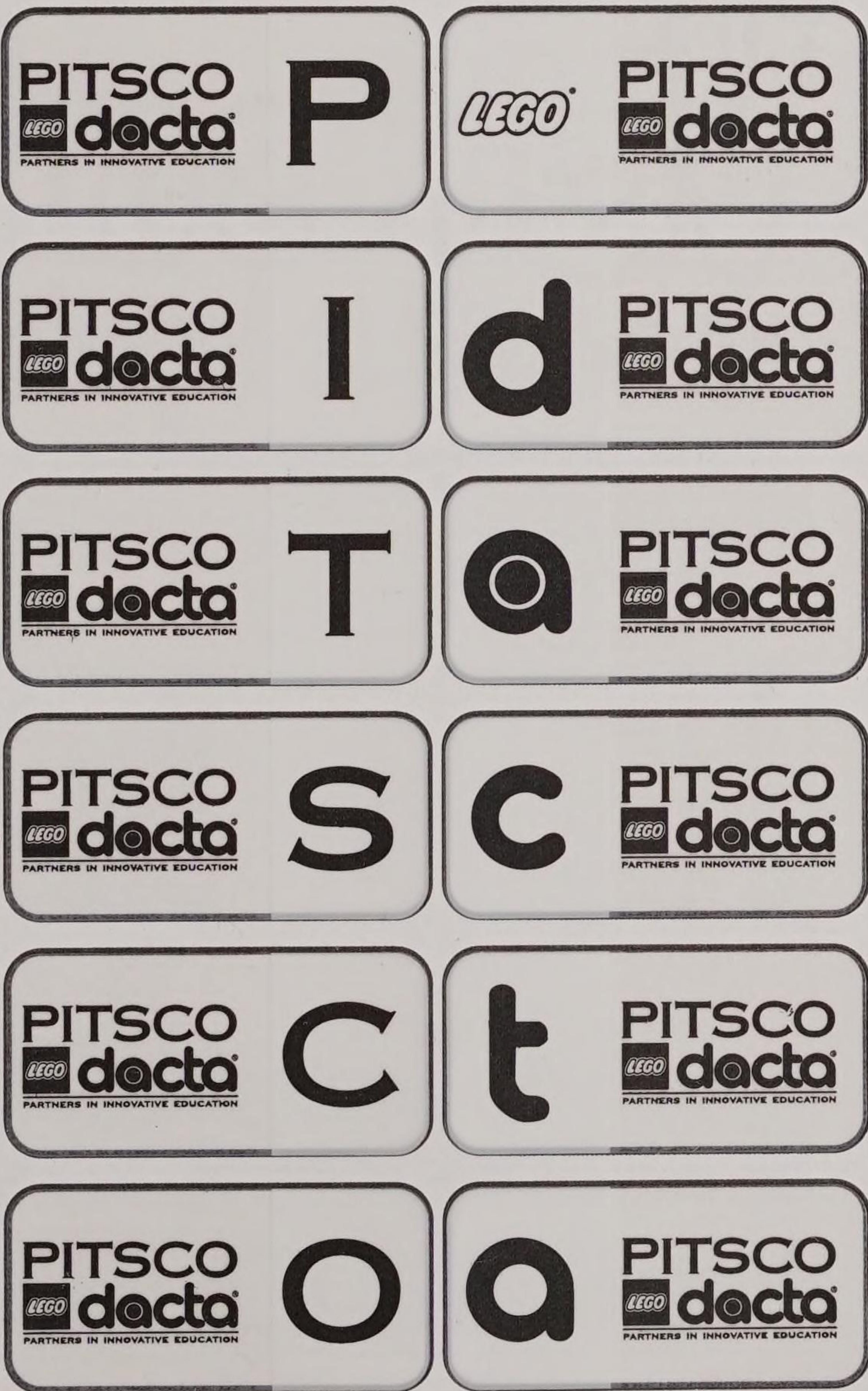
**D970943 Control Lab Starter Pack (MS-DOS/Win 95)—\$709**

**FreeFax™ Orders!**  
**888-534-6784**



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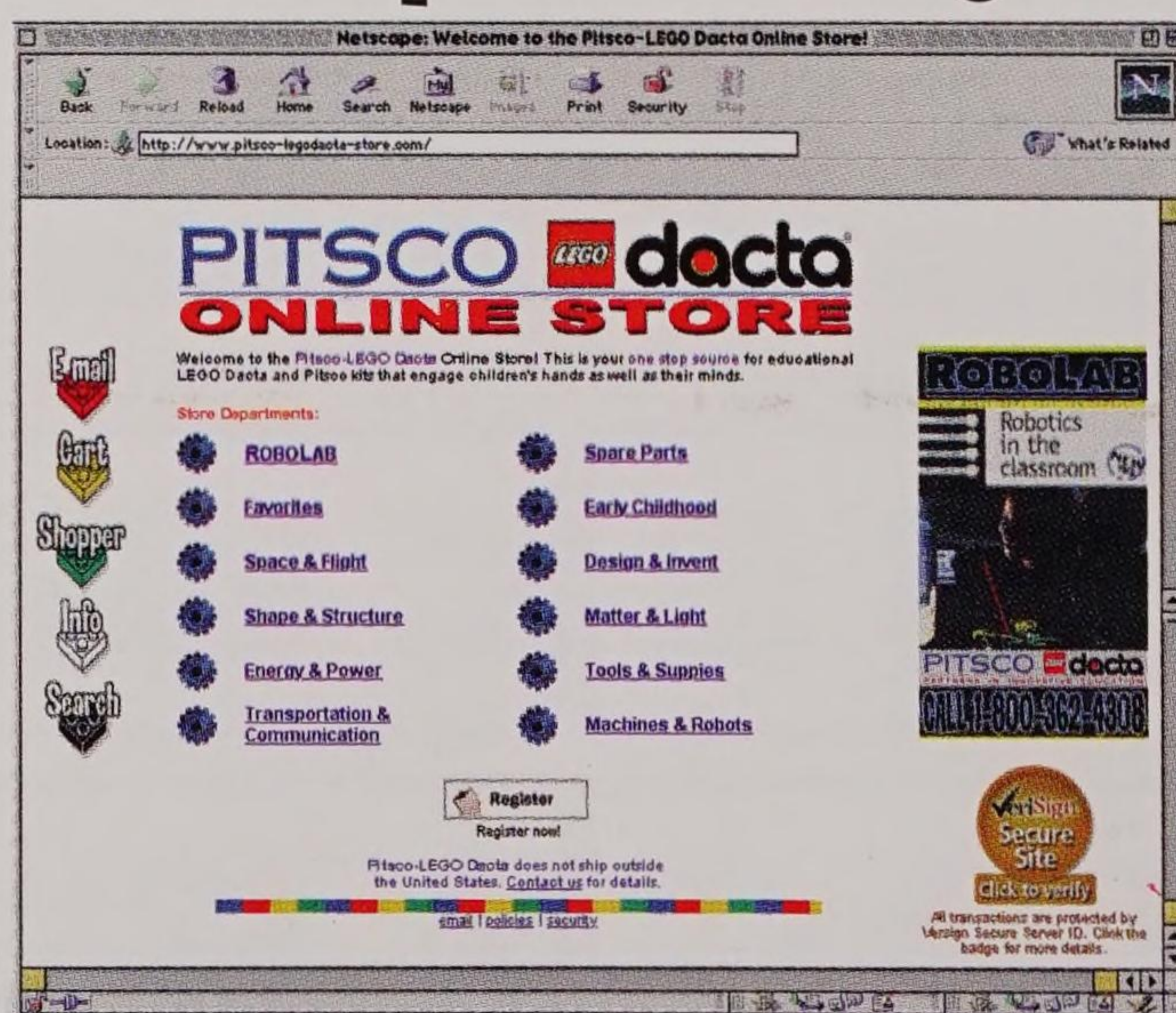
Post-it® Flags. • "Post-it" is a registered trademark of 3M.





# Visit us online!

[www.pitsco-legodacta.com](http://www.pitsco-legodacta.com)



Check out the Pitsco LEGO Dacta Web site! You'll find some great resources—ideas for great LEGO Dacta activities in the classroom, product information, grant proposal tips, sales contact information, and locations of educational conferences in your area. You can even share experiences with other educators who are using Pitsco LEGO Dacta products. Just point your browser to [www.pitsco-legodacta.com](http://www.pitsco-legodacta.com), and let the adventure begin!

or call us toll free at 1-800-362-4308

**PITSCO** **LEGO** **dacta**

PARTNERS IN INNOVATIVE EDUCATION



# LEGO DACTA CONTROL LAB

With the LEGO DACTA *Control Lab*, students build models and control them using a computer. The emphasis of this kit is placed on technology and robotics. By engaging in challenging, open-ended design activities, students discover important technology concepts. Step-by-step building cards can be followed, or students can be challenged to design their own models.

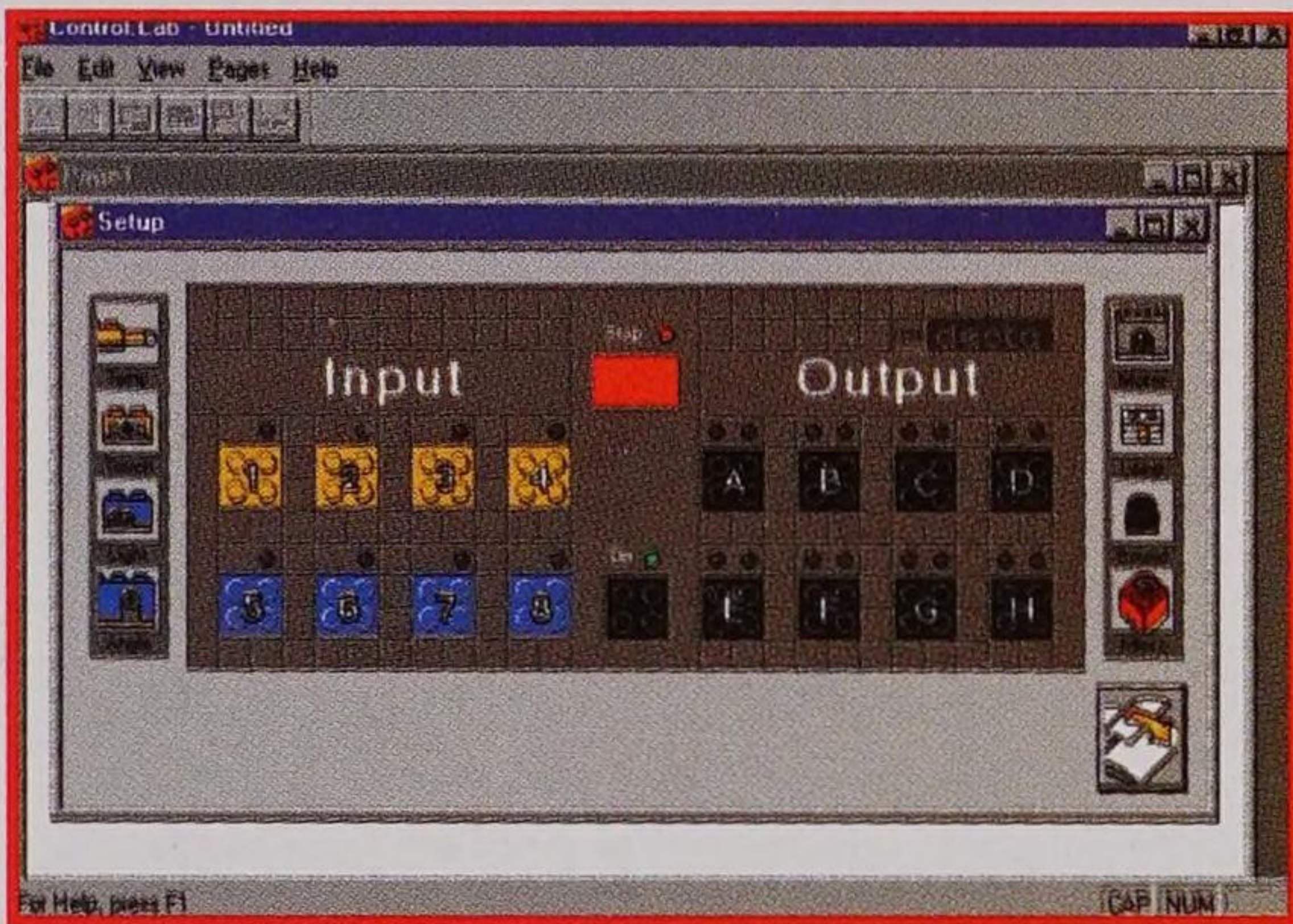
LEGO DACTA *Control Lab* activities include:

- Robotic Arm – Students problem-solve as they learn about manufacturing and the systems approach.
- Greenhouse – Students experience biotechnology as they design and build the greenhouse system.
- Other models include – an industrial robotic arm, dynamometer, joystick-operated wheelchair, vending machine, scanner, and conveyor.

## SITE LICENSE #901305

License covers *Intelligent House* and *Control Lab*. A site license allows you to use the software on a network or any number of stand-alone computers in your building.

**D901305—\$138**



Components are also available individually for setting up additional computer stations:

**D979701 Control Lab Building Set—\$267**

**D979705 Control Lab Software (MS-DOS)—\$95.25**

**D979704 Control Lab Software (Mac)—\$95.25**

**D970998 Control Lab Curriculum Pack—\$87**

If you already have Control Lab MS-DOS, you can upgrade to Win 95.

**D909729 Control Lab Pack Win 95—\$35.25**

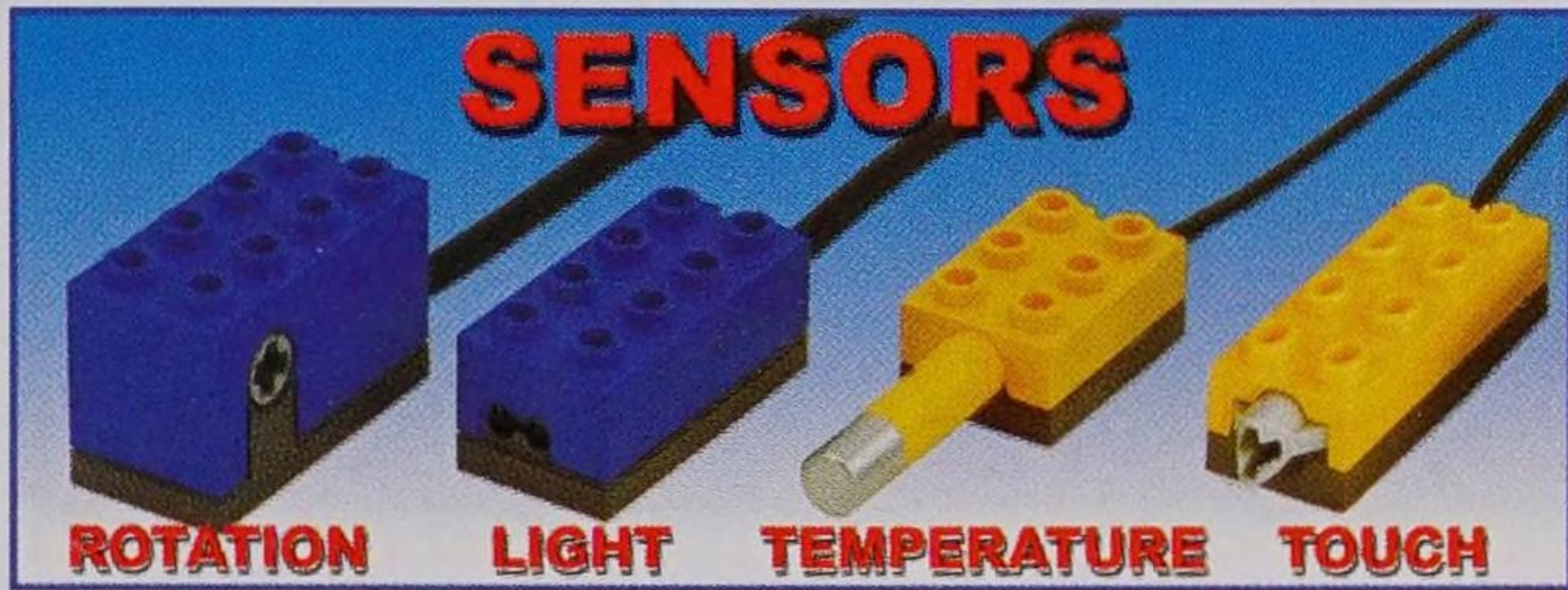
**D979751 Serial Interface and Adapter—\$265**

**D979769 Serial cable for Mac—\$30**

**D979768 Serial cable for PC—\$30**

**D779756 Rotation Sensor—\$16.50**

**D779758 Light Sensor—\$22**



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Red Rover . . . . . 14-15

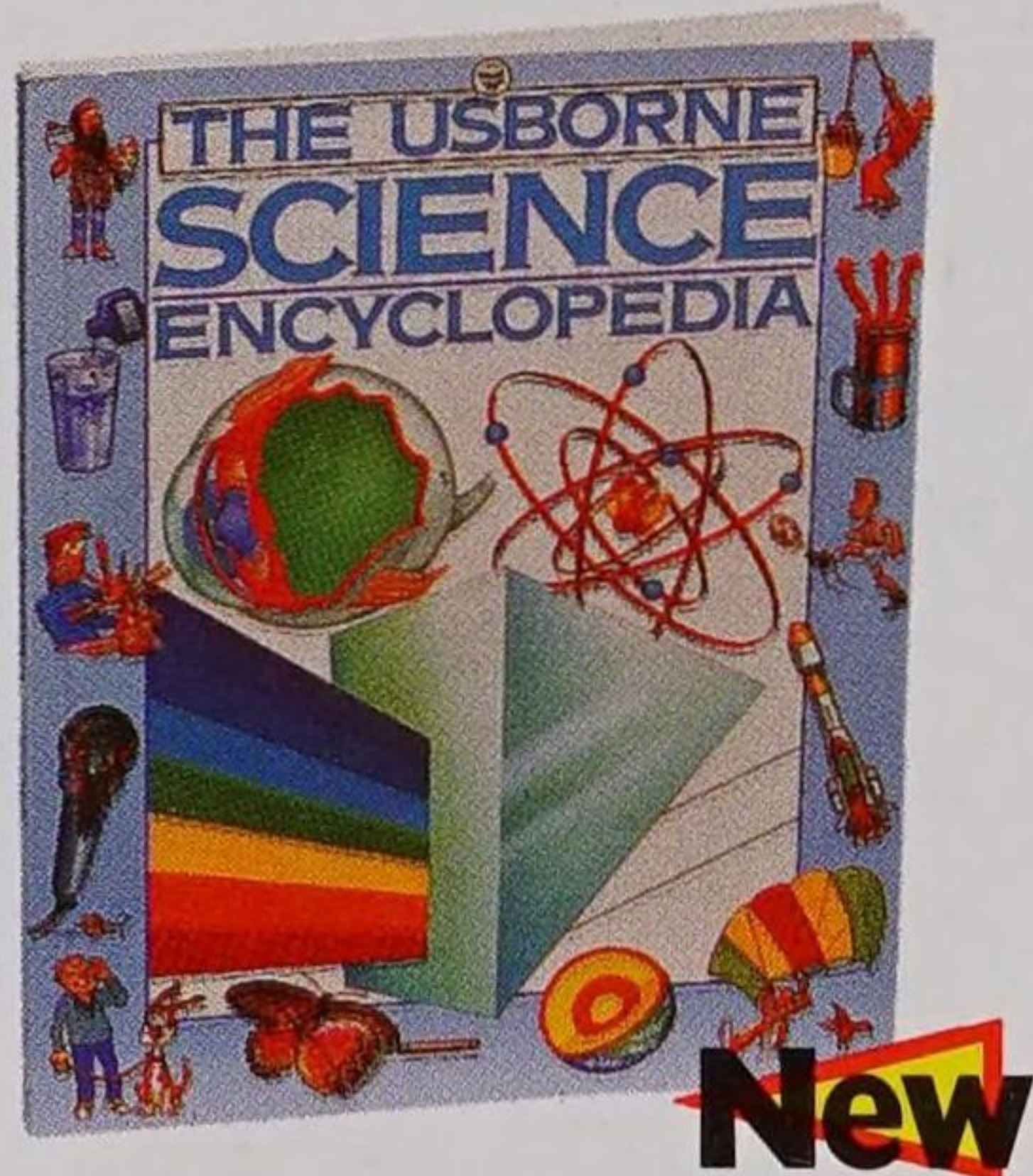
• Control Lab . . . . . 16-17

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## STANDARDS

These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site: [www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)



## THE USBORNE SCIENCE ENCYCLOPEDIA

Eight color-coded sections on topics such as "Counting and Measuring," "Heat and Energy," and "Electricity and Technology" introduce students to the physical sciences. Entertaining cartoon-like drawings in full-color, plus many examples and demonstrations, bring scientific principles to life. An excellent resource for the classroom or an individual child. Paperback, 128 pages.

Level: Intermediate

**D990214—\$14.95**

## PITSCO EXCLUSIVE

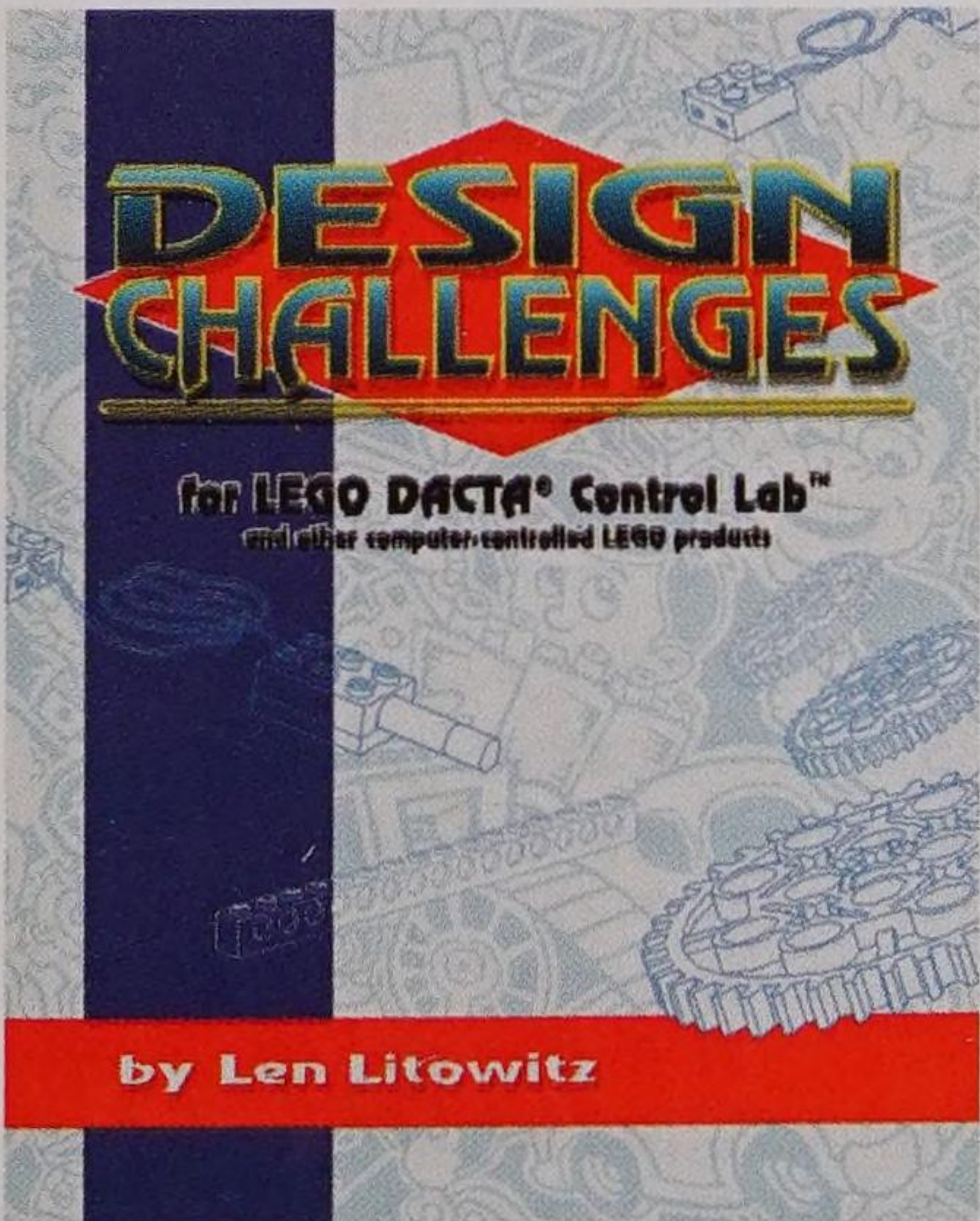
### DESIGN CHALLENGES FOR LEGO DACTA CONTROL LAB

So your students have had a great hands-on learning experience with LEGO DACTA *Control Lab* activities? Great! But don't stop there!

This book contains a series of copy master design briefs written specifically for use with the LEGO DACTA *Control Lab Set*. Design challenges are open-ended, with problem, background information, and design criteria. Each design brief has hundreds of potential solutions, so students' creativity will be challenged. Also includes evaluation tips and helpful suggestions for your own problem-solving activities. Requires previous experience with LOGO programming. Paperback, 22 pages.

*Teacher Resource and Activity Book*

**D990023—\$9.95**



## Ideal Classroom Setup for 24 students

- 1 - Control Lab Starter Pack (Mac - D970942 or PC - D970943)
- 1 - Control Lab Site License (D901305)
- 7 - Control Lab Building Sets (D979701)
- 7 - Serial Interface and Adapters (D979751)
- 7 - Serial Cables (Mac - D979769 or PC - D979768)
- 1 - Design Challenges For LEGO DACTA Control Lab (D990023)

**Total: \$4,790.95**  
plus shipping



# 18 Intelligent House



## INTELLIGENT HOUSE STARTER PACK

To get started with the LEGO DACTA *Intelligent House*, you will need to purchase the *Starter Pack*, which includes everything you need to set up one computer station. It includes:

- *Intelligent House Building Set* (#979707) – 153 elements in snap-lid storage case with pictorial building booklet
- Temperature sensor (#779755)
- Rotation sensor (#779756)
- *Intelligent House Activity Pack* (#979708/#979710) – project disk, teacher's guide, and quick reference guide
- Serial interface and adapter (#979751)
- Serial cable (#979768/#979769)
- *Control Lab* software (#979704/#979705)

**D901303 Intelligent House Starter Pack (Mac)—\$565**

**D901304 Intelligent House Starter Pack (MS-DOS)—\$565**

## SITE LICENSE

This site license covers *Intelligent House* and *Control Lab*. You can utilize the software on a network or any number of stand-alone computers in your building.

**D901305—\$138**

**Order Online!**

**[www.pitsco-legodacta-store.com](http://www.pitsco-legodacta-store.com)**

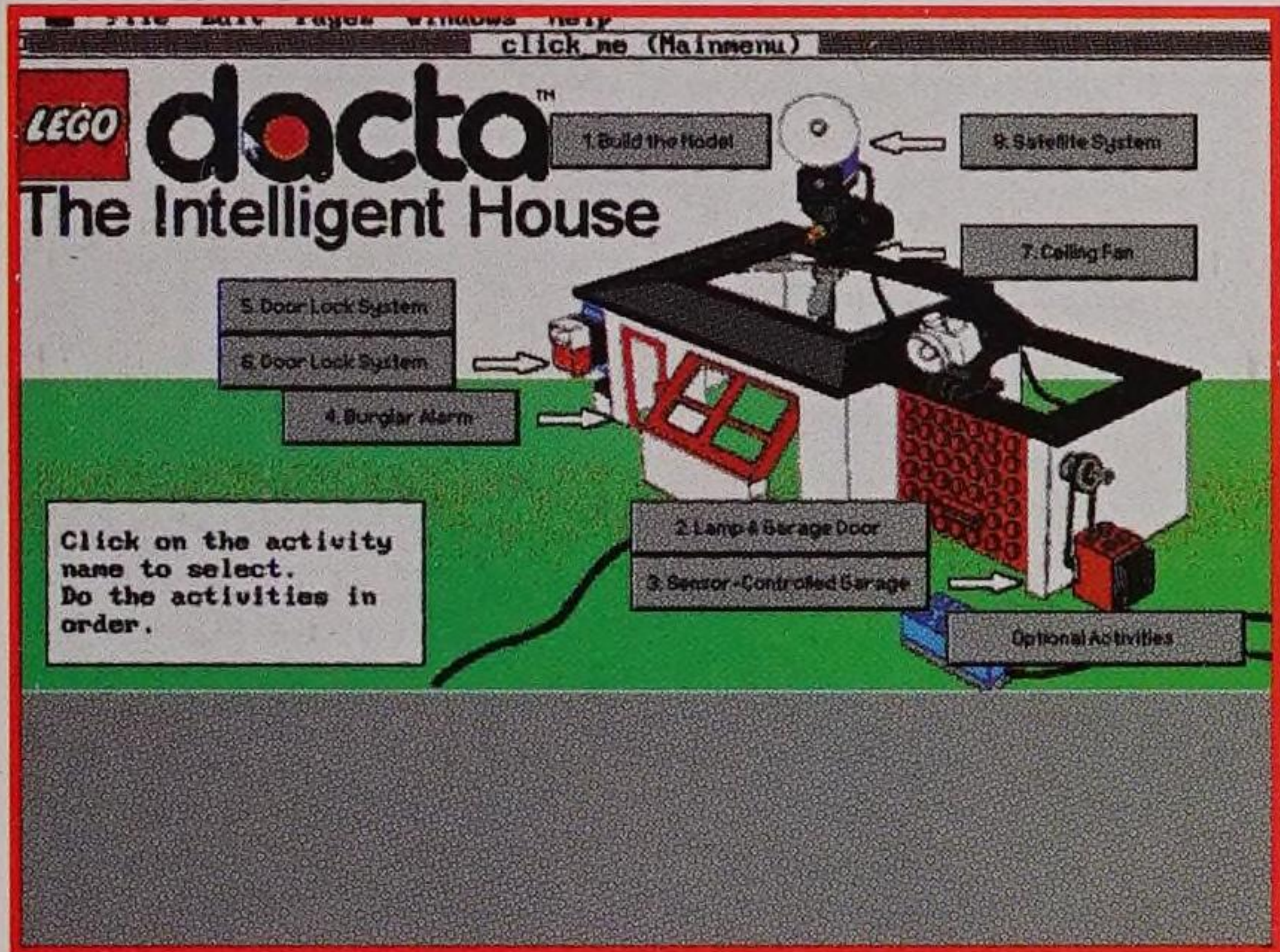


# LEGO DACTA INTELLIGENT HOUSE

*Intelligent House* is an exciting computer-interfaced set that simulates the use of advanced technology used in today's modern homes to increase the security and comfort of the inhabitants. Students build the *Intelligent House* model from LEGO elements, and then, through a series of exercises in computer-controlled technology, they:

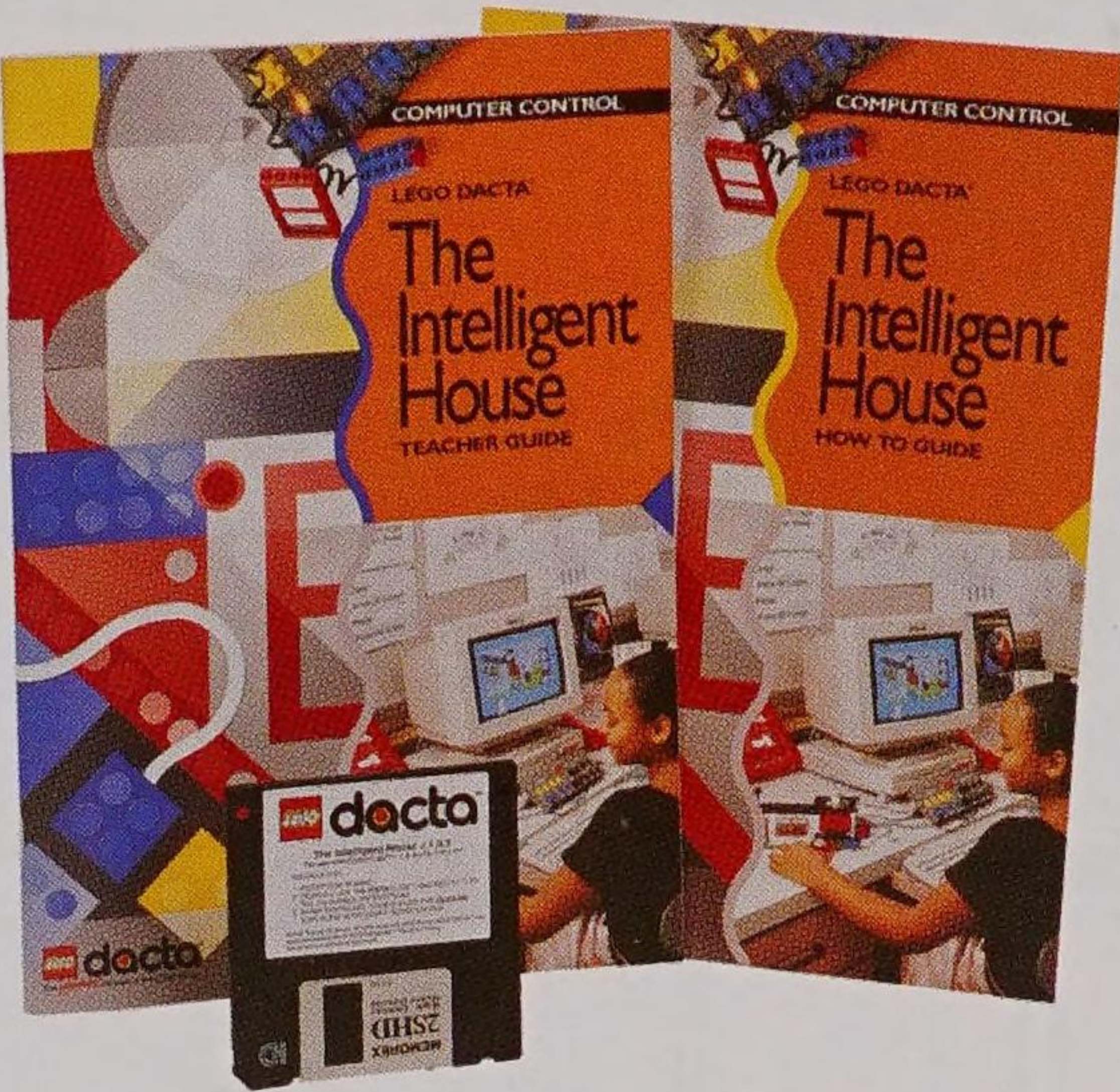
- Work with light, rotation, and temperature sensors.
- Learn to control the input, process, and output of systems including an outdoor lamp, garage door, burglar alarm, door lock, ceiling fan, and satellite dish.
- Use feedback from sensors to trigger output.

Using *Control Lab* computer software, students can receive data from sensors placed in the house and control lighting, appliances, and the security system. By completing a series of programming activities, they learn to organize computer commands to control the model. For example, students are challenged to program the garage door to automatically open when the car passes between the lamp and light sensor. User-friendly *Intelligent House* software guides students through each activity.



Components are also available individually for setting up additional computer stations.

- D979707 Intelligent House Building Set—\$105
- D979708 Intelligent House Activity Pack (MS-DOS)—\$43
- D979710 Intelligent House Activity Pack (Mac)—\$43
- D979751 Serial interface and adapter—\$265
- D979769 Serial cable for Mac—\$30
- D979768 Serial cable for PC—\$30
- D779755 Temperature sensor—\$27.50
- D779756 Rotation sensor—\$16.50



If you already have *Control Lab*, you can save by purchasing the *Intelligent House Upgrade Pack*.  
D901306 Intelligent House Upgrade Pack (Mac)—\$148  
D901307 Intelligent House Upgrade Pack (PC)—\$148



Professional staff development available in most states.  
Call for details. 1-800-362-4308

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Brutus . . . . .	20-21

## STANDARDS

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[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

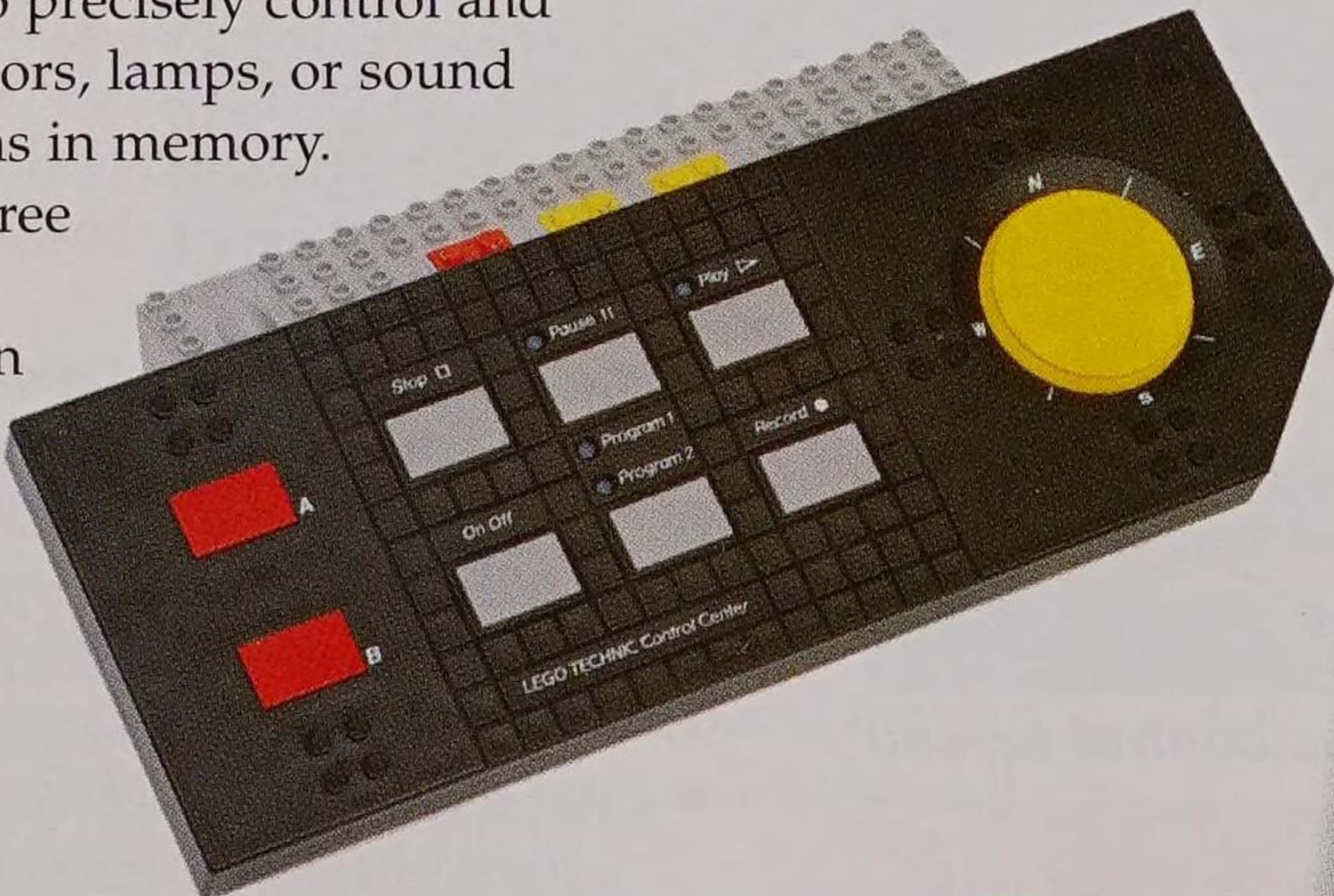
EXCLUSIVE

### TECHNIC CONTROL CENTER #979752

The *TECHNIC Control Center* allows you to precisely control and even program LEGO DACTA models with motors, lamps, or sound elements. Students can even store two programs in memory.

- Features three output ports; controls up to three functions.
- Can be used as a preprogramming test station when used in conjunction with LEGO DACTA computer-controlled materials.
- Does not require a computer.
- Requires six C batteries or AC adapter (#979833) (not included).

- D979752 Technic Control Center—\$92
- D979833 AC Adapter—\$19.50



### Ideal Classroom Setup for 24 students

- 7 - Intelligent House Building Set (D979707)
- 1 - Intelligent House Starter Pack (Mac - D901303 or PC - D901304)
- 1 - Intelligent House Site License (D901305)
- 7 - Serial Interface and Adapters (D979751)
- 7 - Serial Cables (Mac - D979769 or PC - D979768)

Total: \$3,503  
plus shipping

\* If you already own *Control Lab*, call 1-800-362-4308 for your Ideal Classroom Setup



# 20 Brutus

## HEAVY-DUTY METAL GEARBOXES

deliver impressive torque with outstanding durability.

## BRUTUS SPECS

Axes: 6  
Base: 6" height x 12" diameter  
Base rotation: 60°  
Max horizontal reach: 25"  
Max vertical reach: 35"  
Max gripper width: 3"  
Weight: 25 lbs

## "EVEN-GRIP" PINCHERS

firmly grasp objects without pushing them away.

## WEIGHTED 12" DIAMETER BASE

provides solid footing for object manipulation.

## STRONGER THAN NEEDED CONSTRUCTION

will provide years of trouble-free classroom use. Rugged aluminum and 1/4" thick ABS material comprise this "Brute."



Brutus control screen



## PITSCO

### BRUTUS ROBOTIC ARM

Here's an industrial strength robotic arm that executes commands with delicate precision, yet is rugged enough to withstand years of student use. Using *Brutus* in conjunction with a PC, students can explore robotics by creating programs to manipulate objects and perform repetitive tasks.

#### THE SOFTWARE

Students program *Brutus* using the included Windows-based software. The software features a user-friendly graphical interface and requires no prior programming knowledge. Using the teach pendant method, the software stores position data and will repeat entire sequences on command. Programs can be run in loop mode, and an easy-to-use editor allows quick correction of programming errors.

#### THE HARDWARE

*Brutus'* unique "even-grip" pinchers grasp objects up to 3-inches wide without pushing them away. Powerful electric motors and rugged, heavy-gauge materials make up the base and arm components. You'll find no easily stripped plastic gears on this brute!

*Brutus* is shipped completely assembled with computer interface hardware, connector cables, Windows-based software (DOS version is also included), and a robotics activity pack. Software is compatible with Windows 95, 98 and NT.

D754533—\$2,750

Call Toll Free!  
800-362-4308

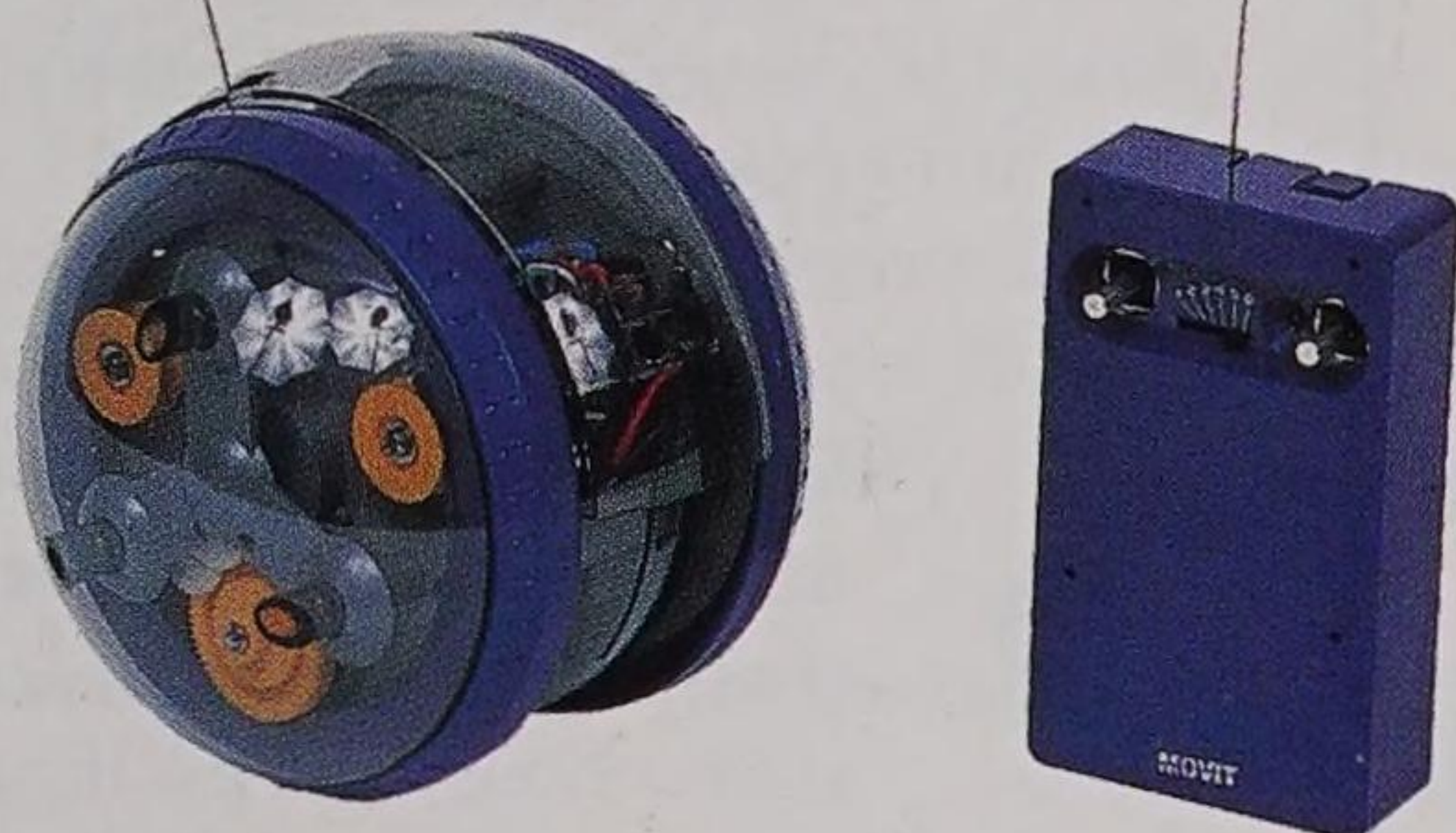


**New**

## MOVIT CYCLONE ROBOT

Learn basic electronics with this presoldered build-it-yourself CYCLONE robot! Controlled by a wireless remote radio controller, CYCLONE responds instantly to six commands: spin, swivel, forward, backward, left, and right. Control sticks give the user complete control of the robot's movements within a range of five meters. Included booklet contains complete assembly instructions, with diagrams and technical data, including a circuit diagram. Assembly requires intermediate experience; recommended for ages 10 and up.

D756949—\$82

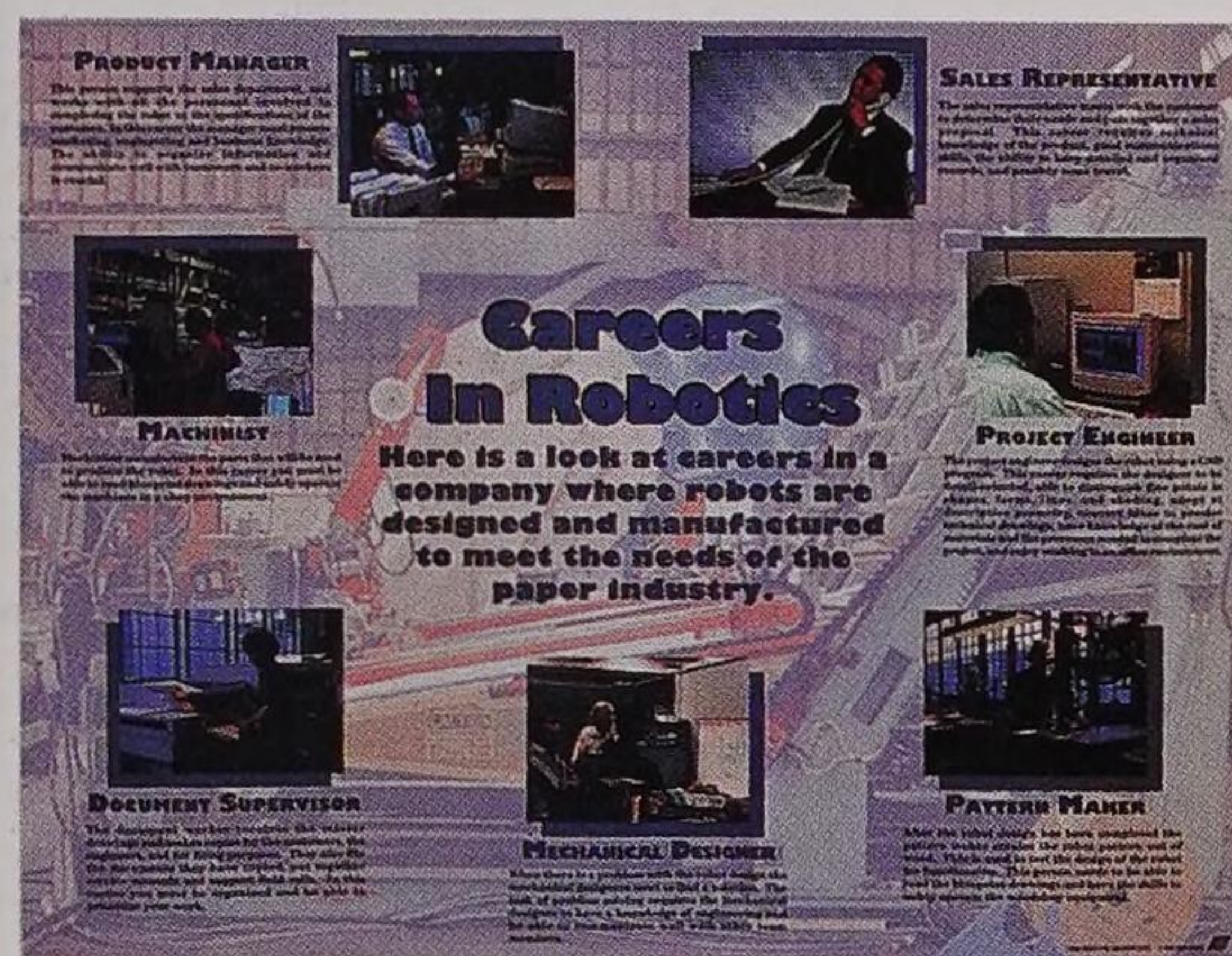


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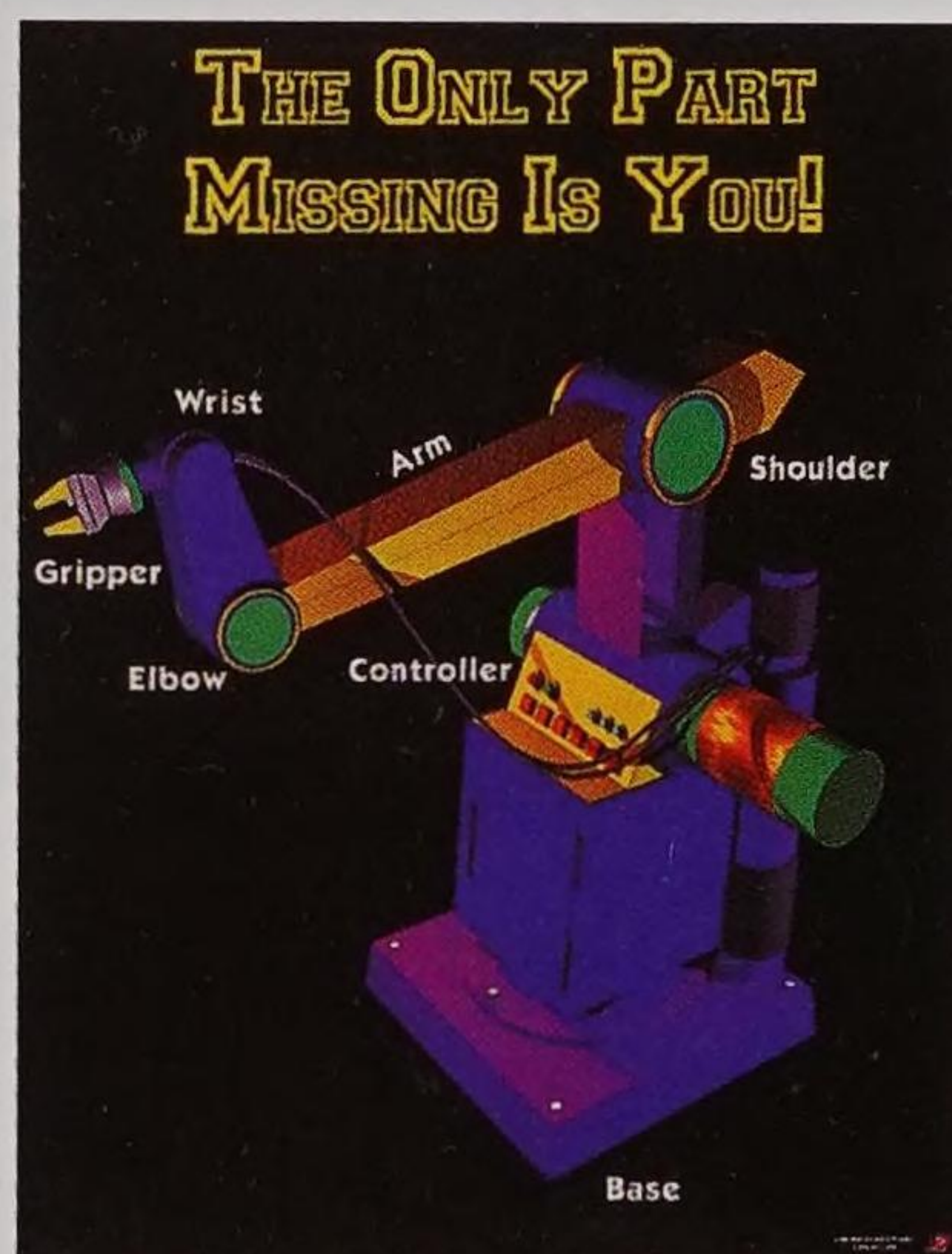
## STANDARDS

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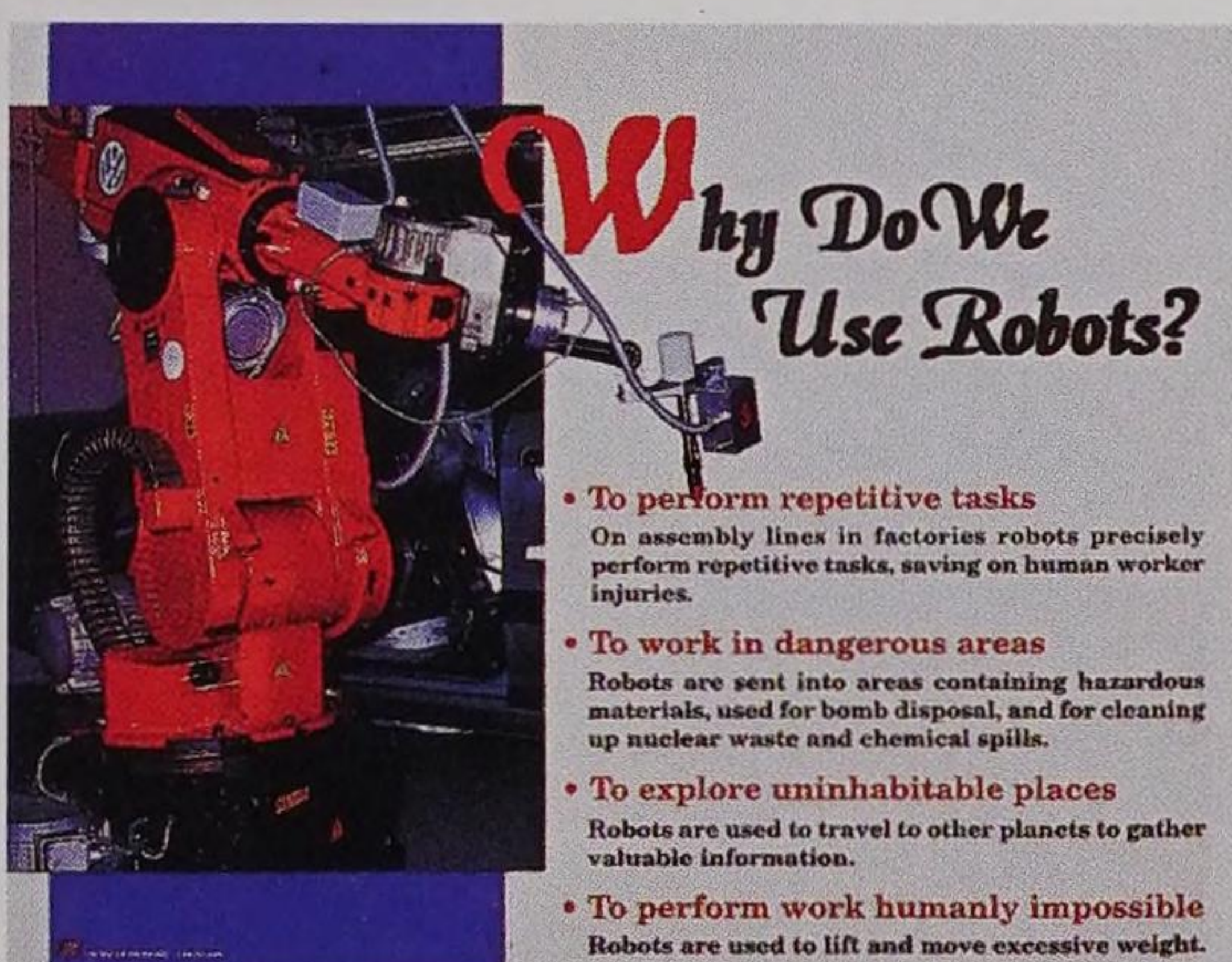
[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)



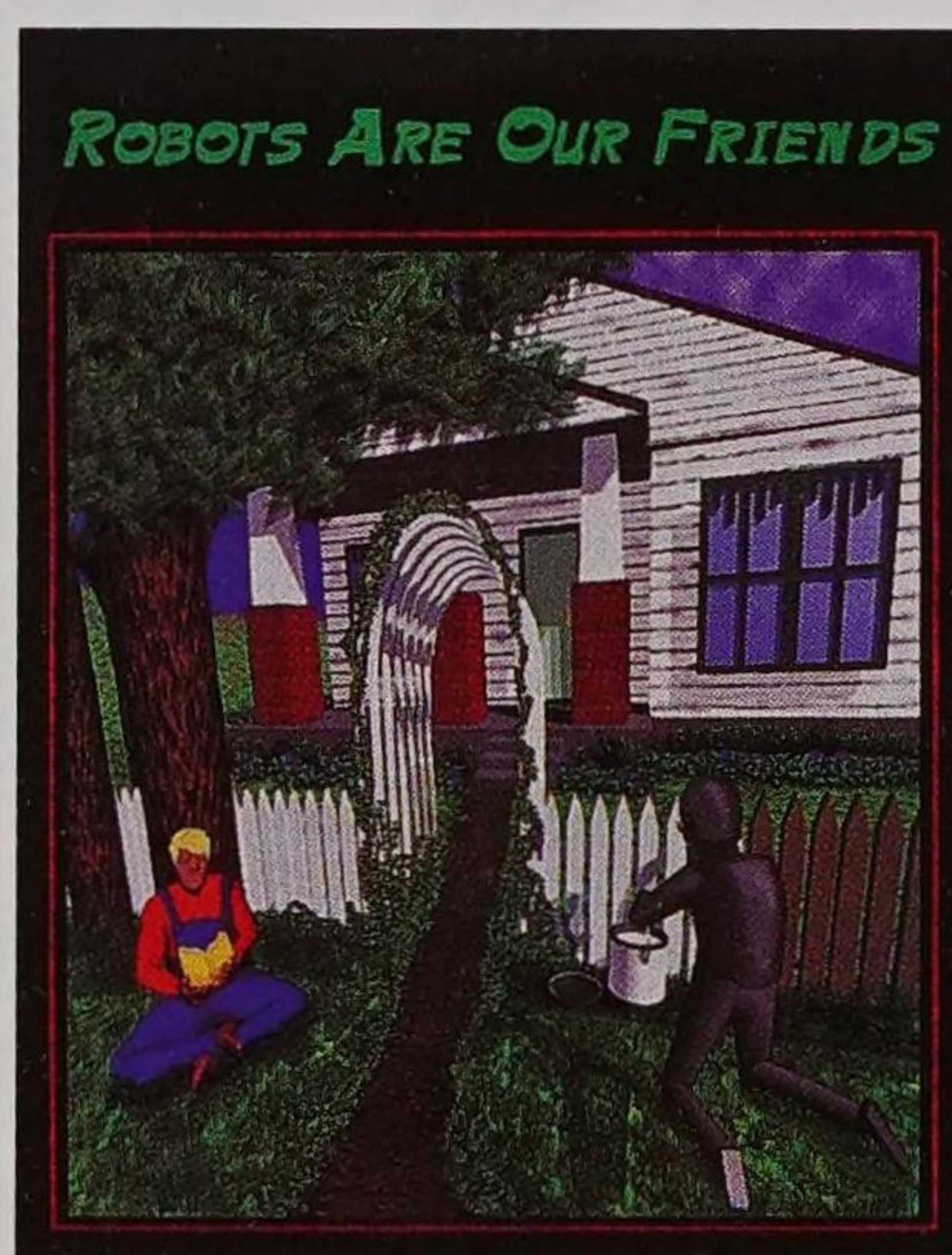
D756108 CAREERS IN ROBOTICS



D756109 THE ONLY PART MISSING IS YOU!



D756106 WHY DO WE USE ROBOTS?

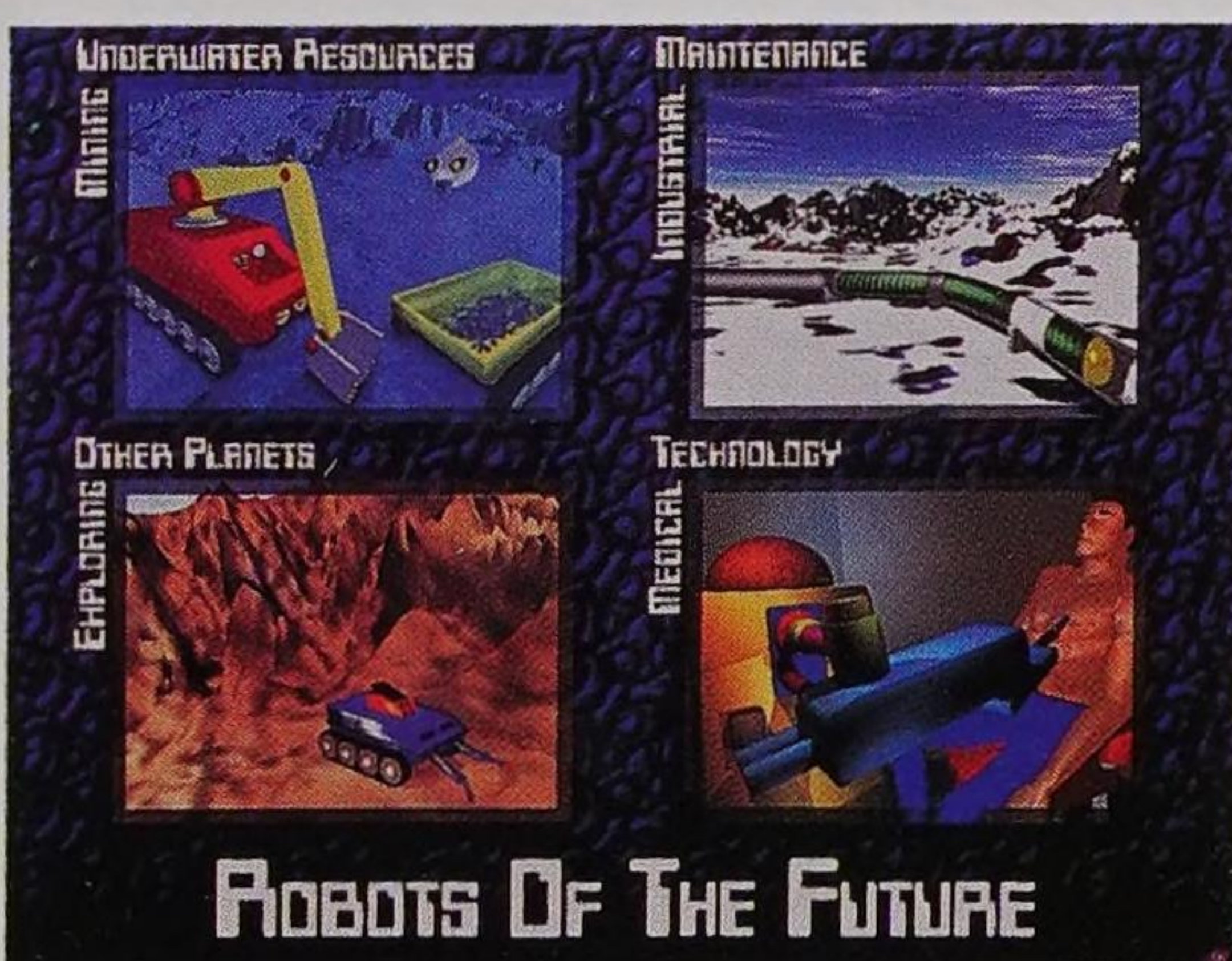


D756107 ROBOTS ARE OUR FRIENDS

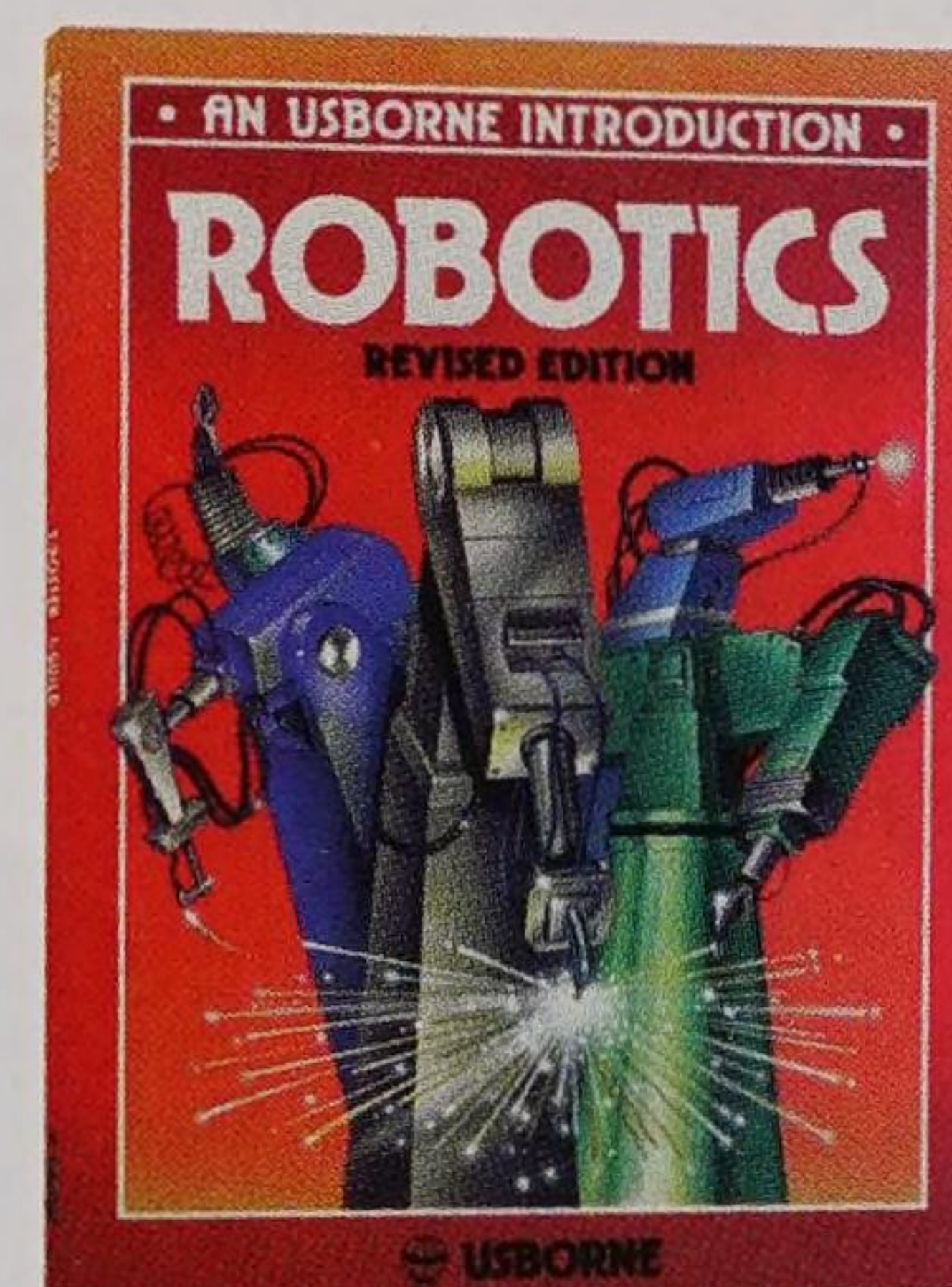
## ROBOTICS POSTERS

Five laminated posters about robots: parts, performance, friendship, use, and careers will keep your students excited about the next robotics information you put on the wall. Size: 17" x 22"

D756186—\$24.95 SET  
\$5.95 EACH



D756110 ROBOTS OF THE FUTURE



## USBORNE: ROBOTICS

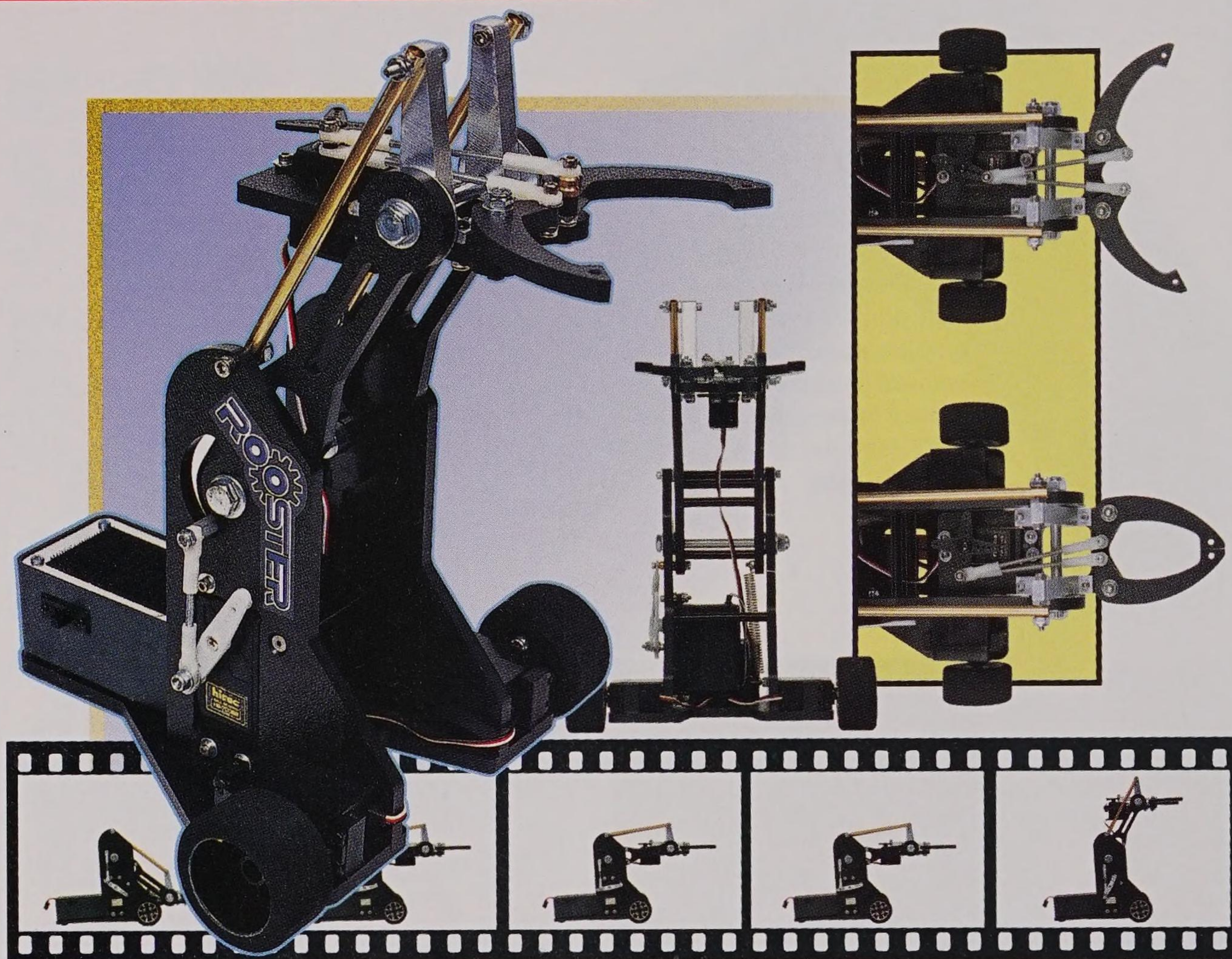
This book is chock-full of fascinating information about robots and robotics. It's fun and interesting to read with dozens of full-color illustrations and concise text. Covers real-world applications for robots, terminology, how they work, how they are controlled in space, robots underwater, and much more.

Paperback, 48 pages.  
Level: 5th Grade-High School

D750953—\$7.95

10 for \$71.60




**PITSCO**  
INNOVATIVE EDUCATION
**ROOSTER R/C ROBOT**

This radio-controlled robot is really something to crow about! It's a highly mobile and maneuverable device for manipulating and transporting objects.

The *Rooster* is the tool for giving students a dynamic, hands-on robotics experience! Rugged construction ensures that the *Rooster* will withstand continuous student use.

Includes a radio transmitter, integrated rechargeable battery pack, charger, detailed instructions, and exciting robotics activities. Robot base dimensions: 8" wide and 7-1/2" long. Maximum gripper height is 9".

**D717273—\$645**
**Buy 2 for \$1,075**

**LUNAR ROVER**

At last, a computer-interfaced robot that is made from quality components and isn't anchored to a table or burdened by cumbersome cables. The *Lunar Rover* is controlled remotely by a PC-compatible computer and a radio transmitter. An easy-to-use software interface allows students to manually control the *Rover* with keystrokes. Or, students can program a sequence using easily mastered commands. The *Lunar Rover* comes with everything you need — rechargeable battery pack and charger, transmitter with interface cable and AC adapter, and software on a 3-1/2" disk. Can also be controlled manually, without the computer. Length: 10", width: 8", height: 4"

**D754062—\$595**

**FreeFax™ Orders!**  
**888-534-6784**



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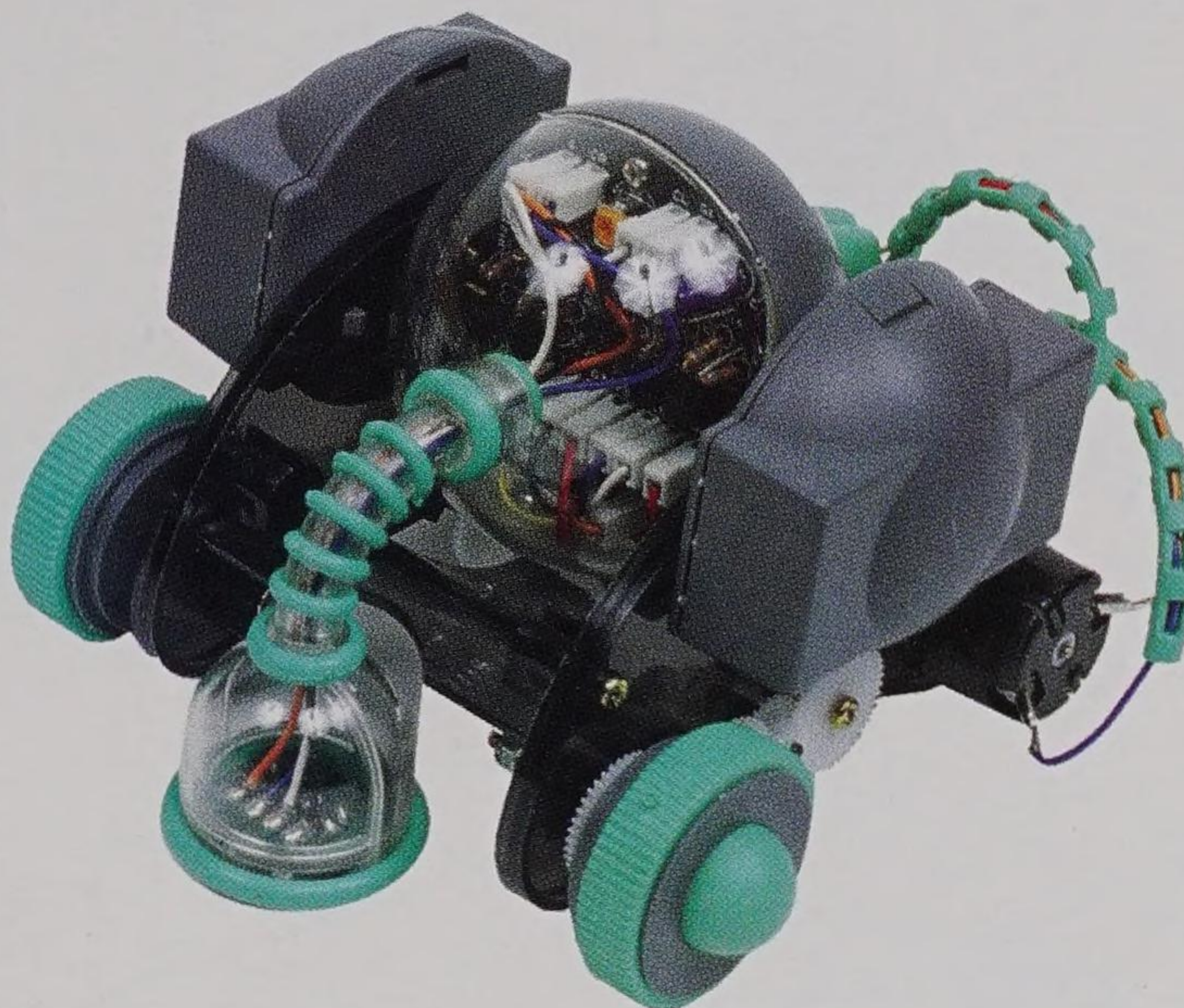
#### LINE TRACKER

A robot that follows a black line drawn on white paper. The eye of the *Line Tracker* is a photo interrupter that projects and receives infrared rays. While black absorbs infrared rays, white reflects them. Features preassembled printed circuit board. Power source is two AA batteries and one 9-volt battery (not included). For ages 10 and up.

**Unassembled, D751104—\$78**

**Assembled, D751105—\$130**

**Unassembled, requires soldering D751839—\$72**



#### SPIDER (INFRARED SENSOR)

An intelligent robot that knows how to avoid interference. This robot emits an infrared beam that detects an obstacle in front, turns left, and continues.

**Unassembled, D751397—\$81**

**Assembled, D751398—\$125**

**Unassembled, requires soldering D751838—\$78**



#### HYPERPEPPY

Students will be thrilled and amazed when they build and operate this sound-sensitive robot. *Hyperpeppy* is a robot with a built-in sensor that reacts to vibration from sound or physical contact. It moves forward, but, when it senses a high-pitched noise (such as a hand clap) or vibration from physical contact with an obstacle, it retreats by reversing and turning left for a preset time and then continues forward on a new course. Electronic board is preassembled.

**Unassembled, D753002—\$29**

**Assembled, D754193—\$54**

**Unassembled, requires soldering D756264—\$27**





EXCLUSIVE



Technic

## MOTORIZED SIMPLE MACHINES SET #979645

This 219 element set is a wide-ranging tool for exploring simple machines and adds the concept of motorization. A 9-volt motor enables students to bring their projects to life. Through the building of realistic motorized models, students develop a strong understanding of mechanical principles.

- Designed for students working in pairs
- Includes a 9-volt motor, battery box, and connecting lead
- Sturdy plastic storage tray with lid for easy classroom cleanup, inventory, and storage
- 8 green cards with building projects for exploration of simple machines concepts
- 10 blue cards for applying simple machines concepts by building models of real-world devices including: folding lawn chair, drawbridge, conveyor belt, turnstile, crane, and more

**D979645 Motorized Simple Machines Set—\$105**

**D979630 Nonmotorized Simple Machines Set—\$80**

**D979615 9-Volt Motor and Battery Box (requires 6 AA batteries)—\$30**

**Order Online!**

[www.pitsco-legodacta-store.com](http://www.pitsco-legodacta-store.com)



**Best Buy!**

## MOTORIZED SIMPLE MACHINES TECHNOLOGY PACK #901185

This pack contains enough materials for 10 students working in pairs, plus free teacher support materials. Includes:

- 5 Motorized Simple Machines Sets (#979645)
- Simple and Motorized Machines Activity Pack (#979631)

**D901185—\$535**





**EXCLUSIVE**

## SIMPLE AND MOTORIZED MACHINES ACTIVITY PACK #979631

This literature pack is designed to provide teachers the materials they need to teach students the principles of simple and motorized machines using the *Motorized Simple Machines Set* #979645. The pack includes:

- An 80-page teacher's guide divided into six progressive units. The guide provides background information, key words and concepts, sample solutions, and ideas for additional activities.
- 31 worksheet copy masters covering activities that focus on exploring, investigating, and problem solving; each worksheet is designed to take approximately 45 minutes.

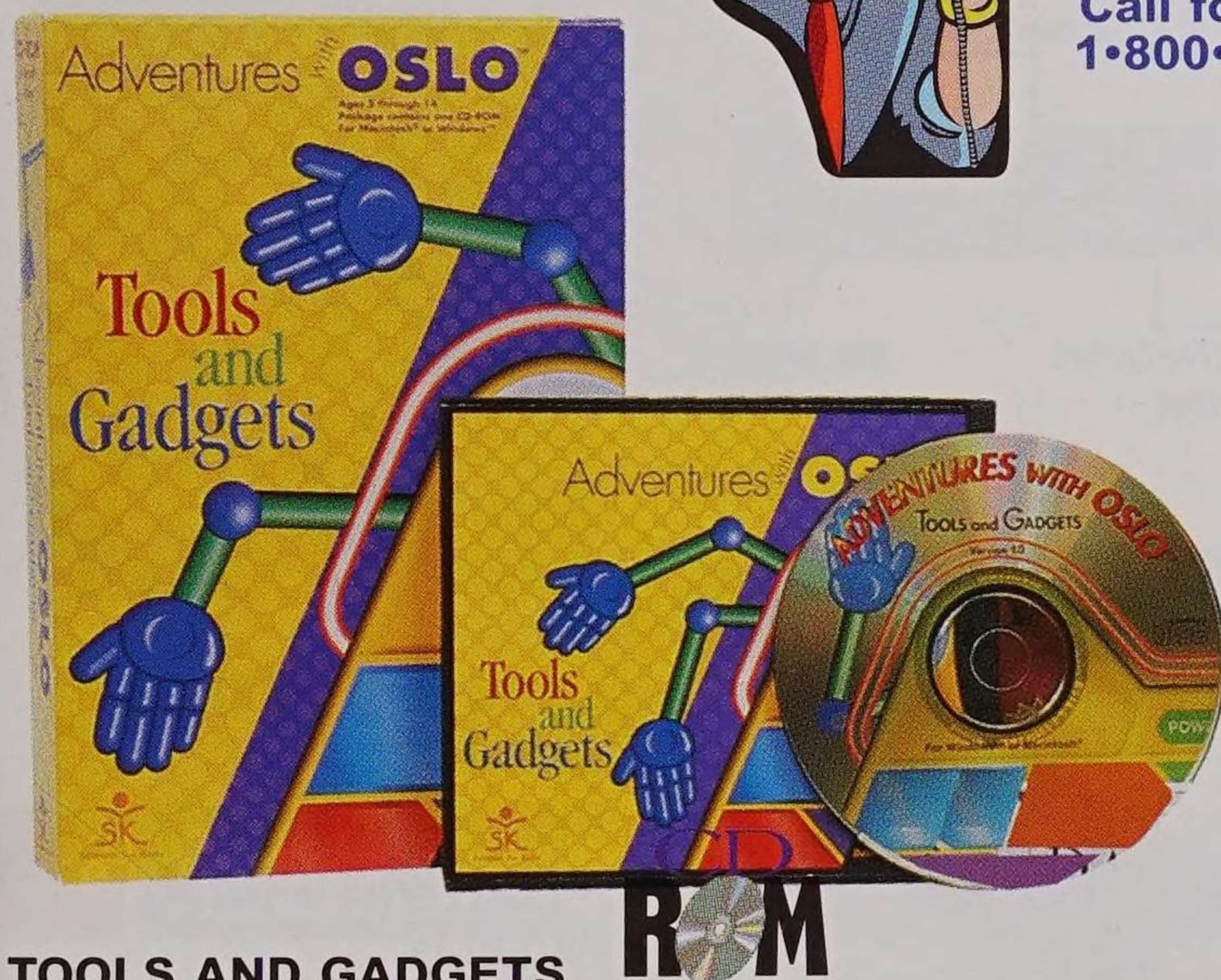
**D979631—\$42.75**

**SPANISH VERSION**

**D209631—\$42.75**



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development  
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1-800-362-4308**

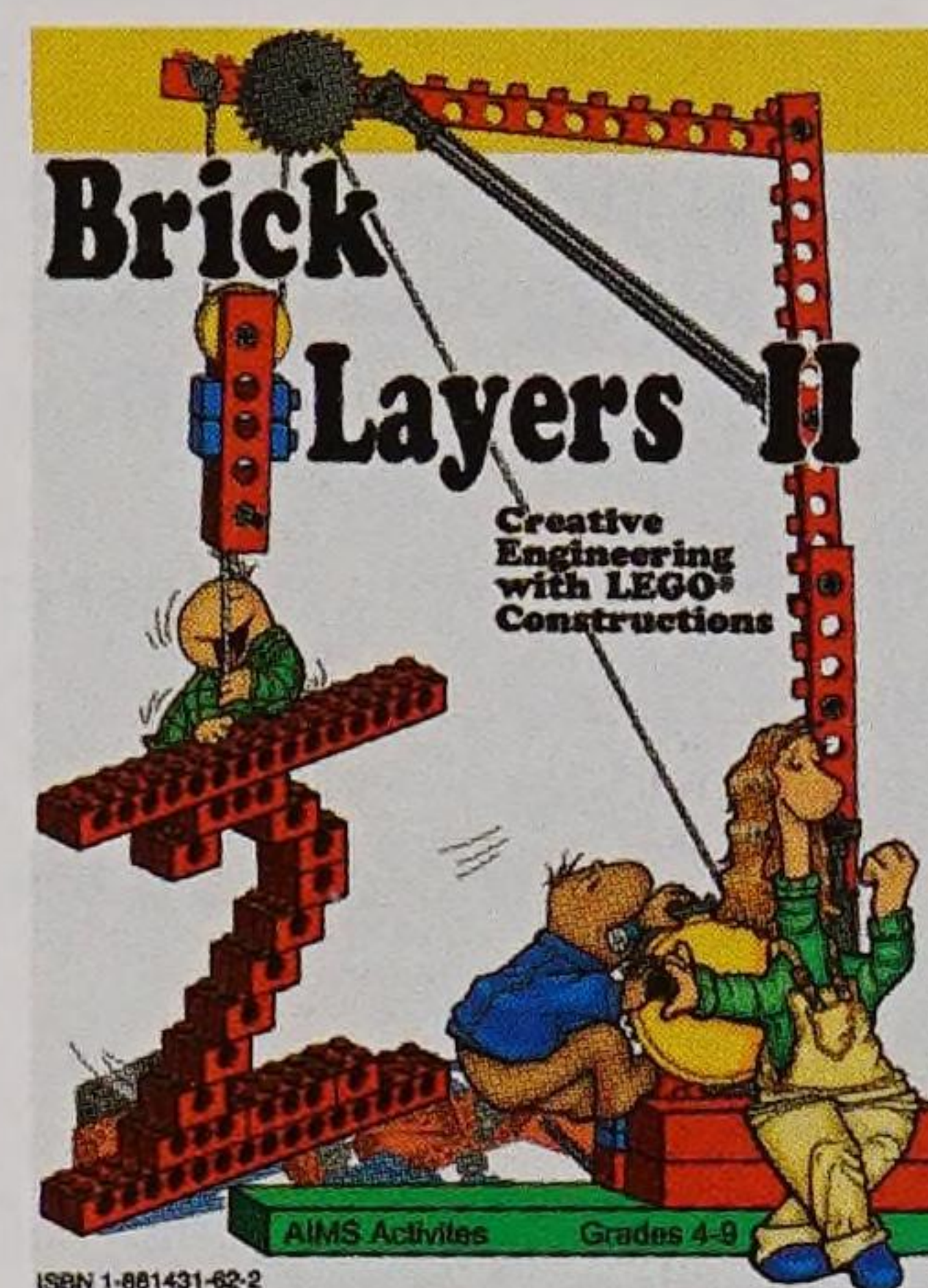


## TOOLS AND GADGETS

Young students (ages 5-14) will have fun learning about tools, gadgets, and simple machines with this entertaining software. An animated storybook, adventure game, coloring gallery, and a maze arcade are some of the fun and innovative methods *Tools and Gadgets* uses to teach students about simple machines.

Also includes an interactive database that uncovers the six classes of simple machines – the inclined plane, screw, pulley, wheel and axle, lever, and wedge.

**D752615 Macintosh/Windows CD-ROM—\$40**



## BRICK LAYERS II: CREATIVE ENGINEERING WITH LEGO CONSTRUCTIONS

This book is written to be used along with LEGO DACTA Kits #979645 and #979630 (pg. 24). The activities give students the opportunity to explore areas of mechanical engineering through simple machines and structural engineering as they look at the special properties of certain shapes that make them useful in construction.

Level: Grades 4-9

**D990244—\$25**

## STANDARDS

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[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

**New**

## Ideal Classroom Setup for 24 students

- 12 - Motorized Simple Machines Sets (D979645)
- 1 - Simple and Motorized Machines Activity Pack (D979631)
- 1 - Brick Layers II (D990244)
- 1 - Machines by VanCleave (D715808) pg. 33
- 1 - The Way Things Work CD-ROM (D754534) pg. 34
- 1 - Each of Simple Machines Posters pg. 35
- 1 - Simple Machine and Work Video Series (D990213) pg. 35

**Total: \$1,602.40  
plus shipping**



## SYSTEM REQUIREMENTS

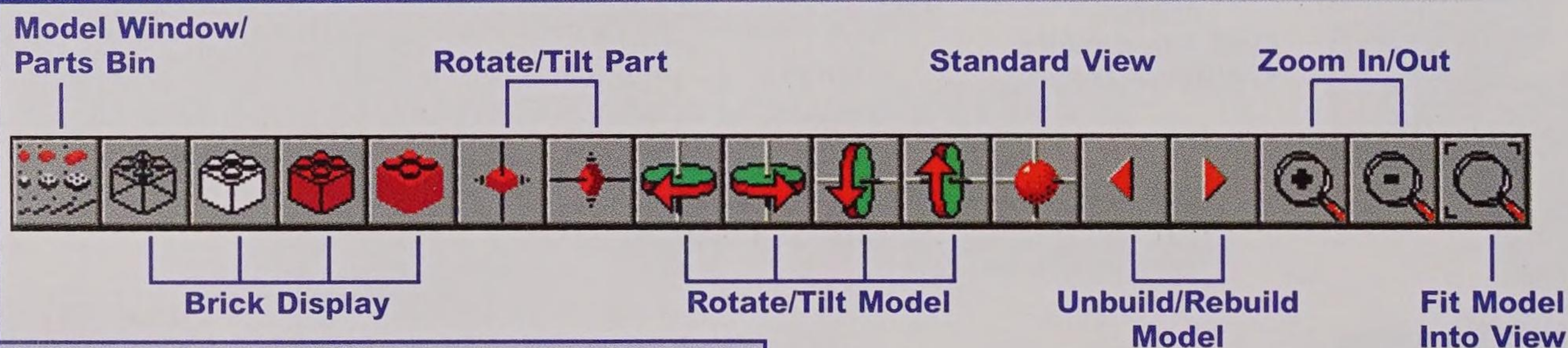
	Macintosh	PC
<b>System</b>	System 7, 8.1 or higher Not for use with 8.0	Windows 95 or 98
<b>Processor</b>	Power PC w/603-e RISC iMac, iBook, G3, G4	Pentium or better
<b>Memory</b>	16 MB or more	4 MB or more
<b>Graphics</b>	640 x 480 minimum 16 or more colors	640 x 480 minimum 16 or more colors

**EXCLUSIVE****LEGO® CAD: SIMPLE MACHINES DESIGN SOFTWARE FROM AUTODESK® #900033**

Macintosh/Windows (3.5" Floppy Disk)

This exciting software from LEGO Dacta and Autodesk, Inc. empowers students to design their own LEGO models using virtual LEGO elements. With 3-D computer images of pieces from the LEGO DACTA *Motorized Simple Machines Set* (#979645) your students will:

- Create and print building instructions along with budget and cost analysis for real-life situations.
- Document steps as they design their models.
- Bring their on-screen designs to life using the *Motorized Simple Machines Set*.
- Challenge other students to build from their designs.
- Switching soon to CD-ROM.

**D900033—\$49****LEGO CAD SOFTWARE AND SITE LICENSE #900038****D900038 Mac/Windows—\$249****LEGO CAD TOOL BAR**

**Model Window/Parts Bin** – toggles between choosing elements and building area

**Brick Display** – choose how the bricks are displayed on-screen, from wireframe to solid display

**Rotate/Tilt Part** – allows you to turn the part in any direction at any angle

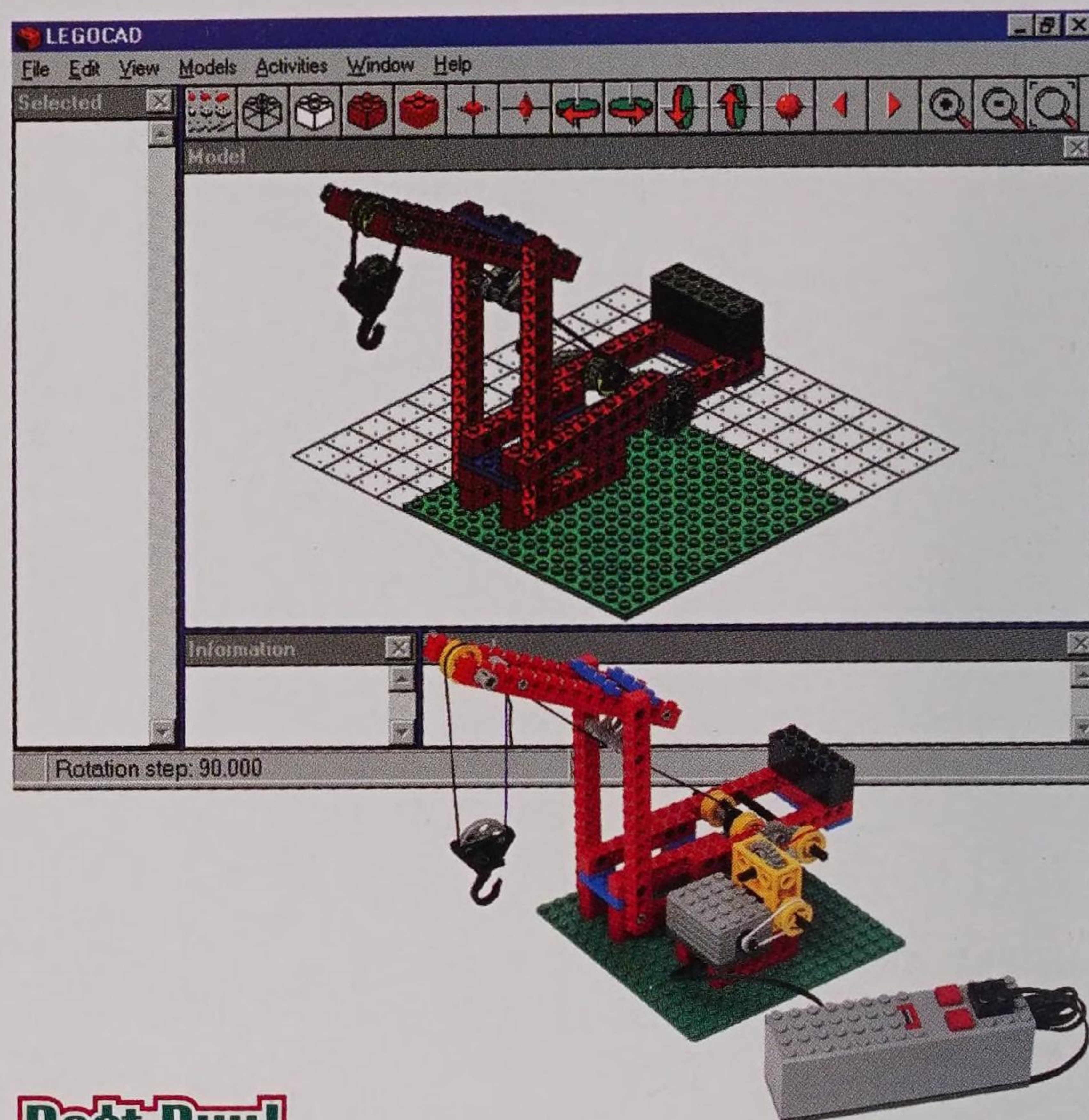
**Rotate/Tilt Model** – allows you to turn the entire model

**Standard View** – returns to the original view

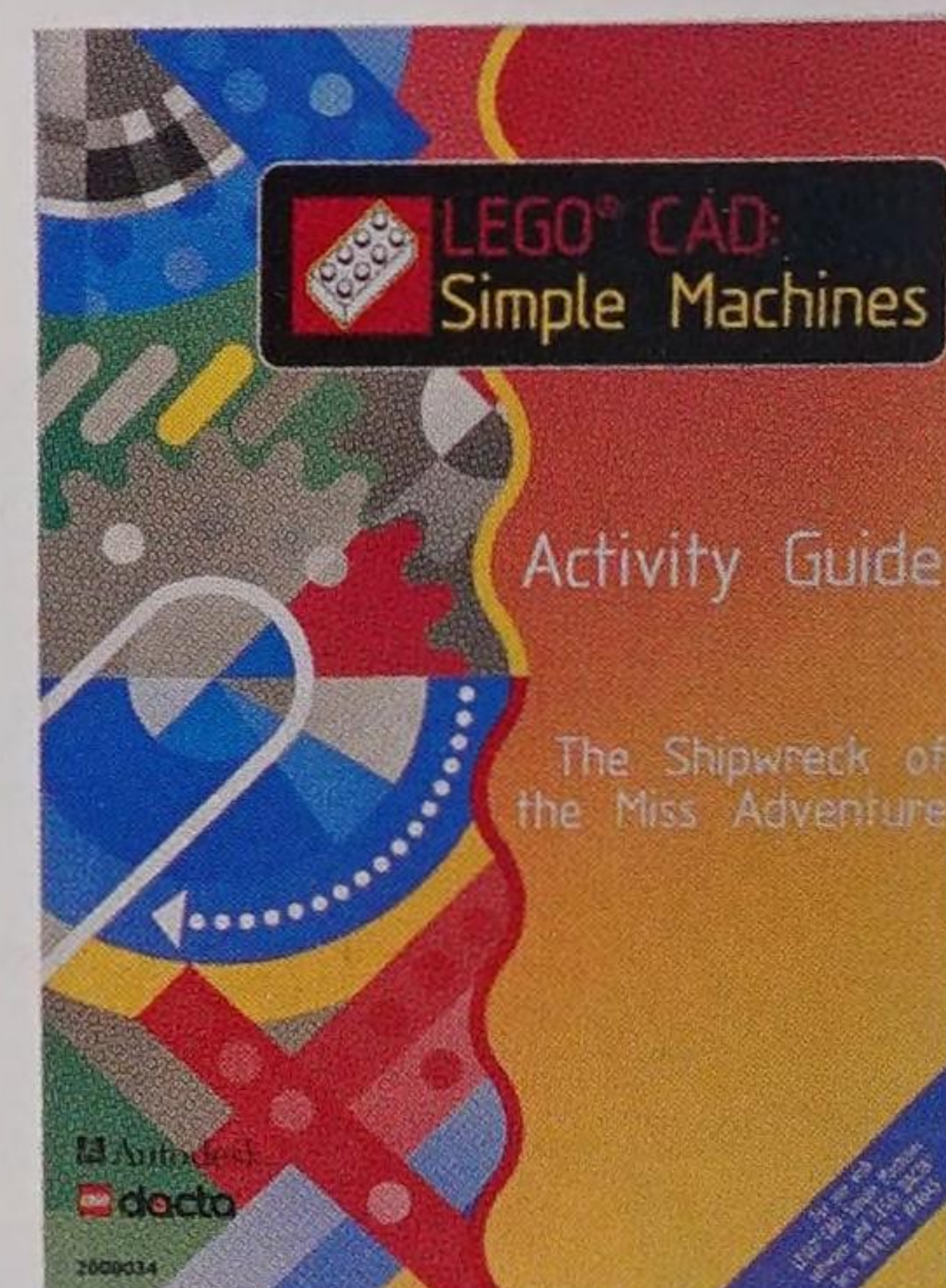
**Unbuild/Rebuild Model** – adds or takes off one element at a time from the model

**Zoom In/Out** – gives you a more detailed or distant view of the model

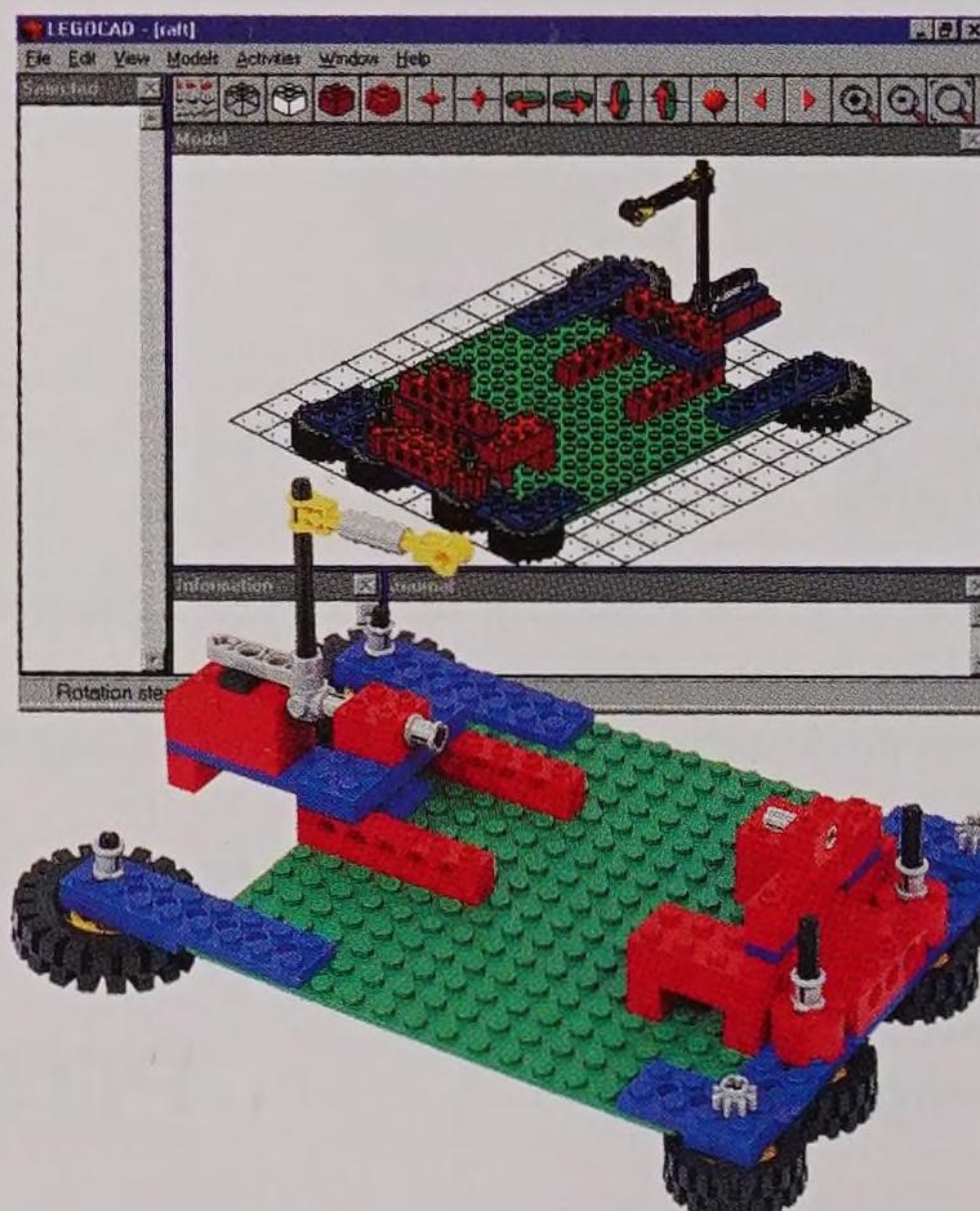
**Fit Model Into View** – makes the model as large as possible

**Best Buy!****LEGO CAD CLASS PACK #9000XX**

- 10 *Motorized Simple Machines Sets* (#979645)
- *LEGO CAD Software and Site License* (#900038)
- *LEGO CAD Activity Guide: The Shipwreck of the Miss Adventure* (#900034)
- *Simple and Motorized Machines Activity Pack* (#979631)

**D9000XX—\$1,350****LEGO CAD ACTIVITY GUIDE: THE SHIPWRECK OF THE MISS ADVENTURE #900034**

This theme-based book includes a series of seven design challenges for use with the *LEGO CAD Design Software* (#900033) and the *LEGO DACTA Motorized Simple Machines Set* (#979645).

**D900034—\$25**

**Call Toll Free!**  
**800-362-4308**



**AVAILABLE  
FOR A  
LIMITED  
TIME ONLY!**

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• LEGO CAD . . . . .	26
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## TECHNIC I:

### COMPREHENSIVE SIMPLE MACHINES SET #971030

179 elements

This set is intended to expand on the basic simple machines principles introduced by the TECHNIC Mini Sets. By building and manipulating models, students investigate the properties of simple machines.

- Designed to be used by students working in pairs
- Includes gear racks, universal joints, wheels, and piston rods
- 20 step-by-step building cards
- Pictorial instructions for 29 models
- Photos of 23 additional challenge models
- Compartmentalized storage tray with clear lid for easy classroom management

**D971030—\$75**

**EXCLUSIVE**

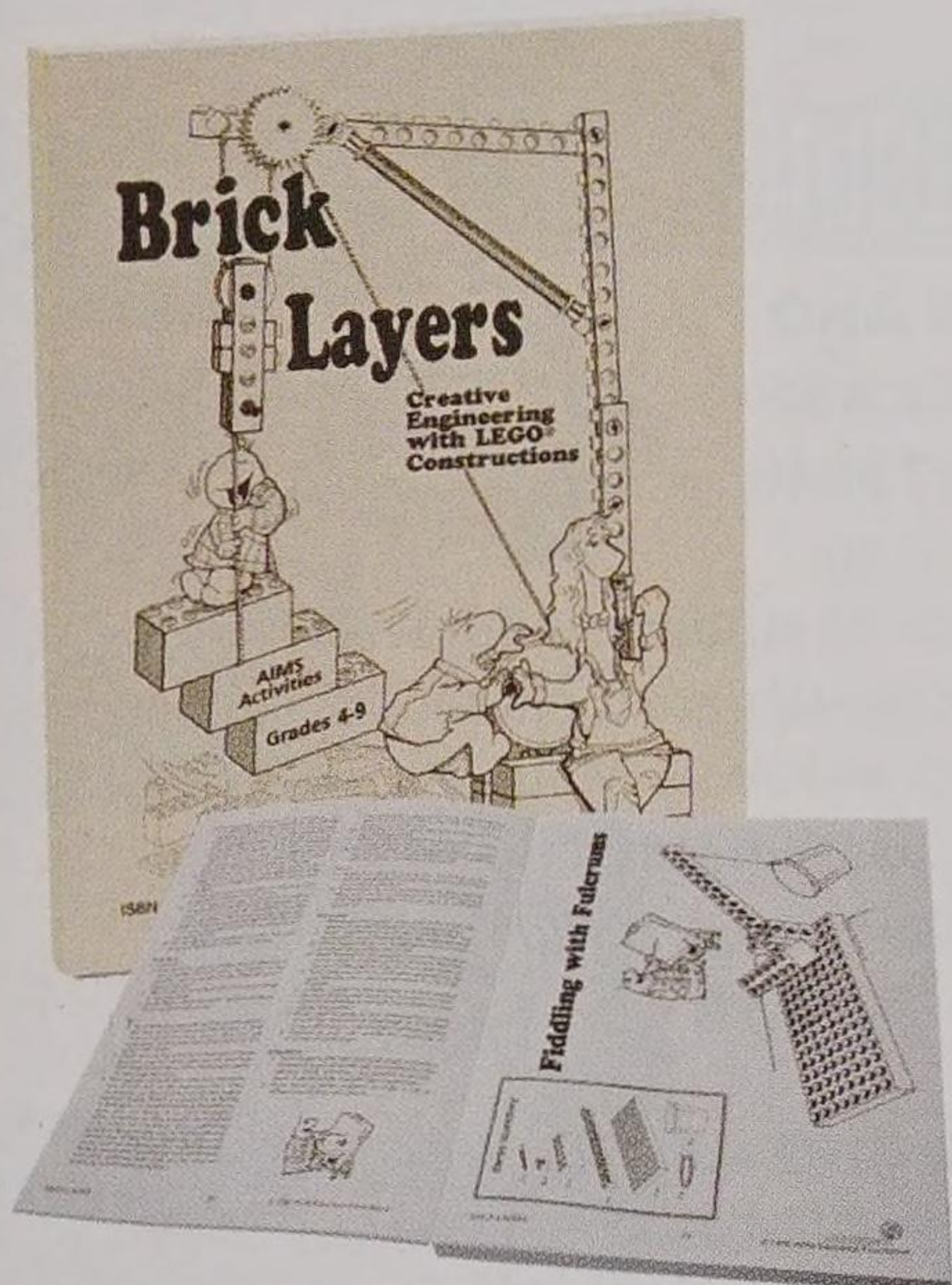
**EXCLUSIVE**

### TECHNIC I MIDDLE SCHOOL PACK #900024

This special pack is designed for the modular approach, but also works to jump-start a class collection. The pack includes:

- 5 TECHNIC I Sets (#971030)
- AIMS Foundation book titled *Brick Layers: Creative Engineering with LEGO Constructions* (#770918)

**D900024—\$400**



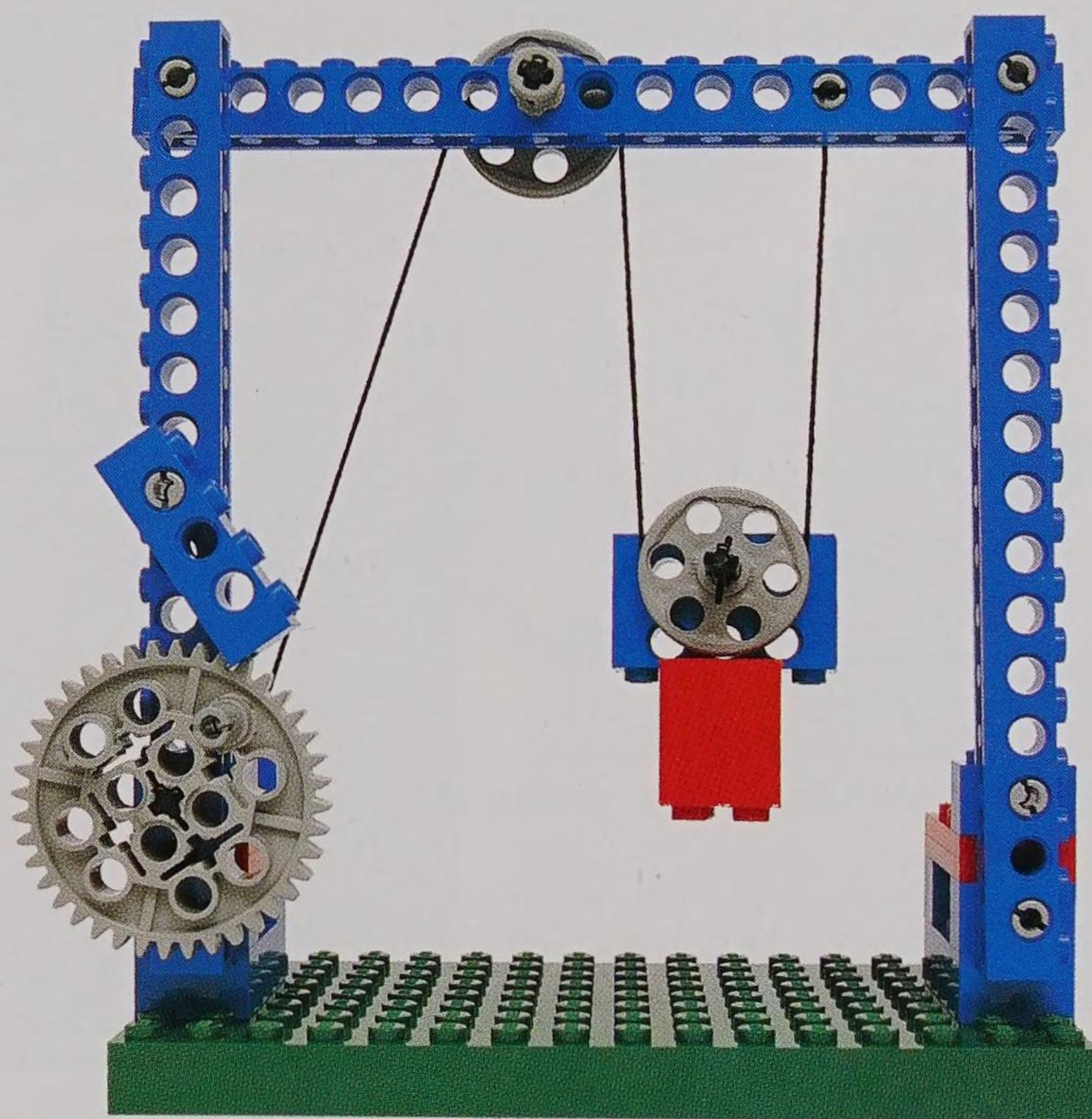
### BRICK LAYERS: CREATIVE ENGINEERING WITH LEGO CONSTRUCTIONS #770918

This 145-page activity booklet and teacher's guide was written specifically for the *Technic I Set*. The hands-on simple machines activities integrate math and science.

Mechanical engineering concepts are also explored through simple machines.

Level: Intermediate-High School

**D770918—\$25**





# 28 Wheels & Axles/ Gears



- ### Rules
1. Listen carefully.
  2. Follow directions.
  3. Work quietly. Do not disturb others who are working.
  4. Respect others. Be kind with your words and actions.
  5. Respect school and personal property.
  6. Work and play safely.

**Best Buy!**

## WHEELS AND AXLES CLASS PACK #779646

Hands-on learning for 24 students with teacher support materials are included in this convenient pack.

- 12 *Wheels and Axles Mini Sets* (#779616)
- 20-page teacher guide (#779626)
- Individual storage case with each set

**D779646—\$201.75**

## WHEELS AND AXLES TEACHER GUIDE #779626

This 20-page guide contains 10 lesson plans, introductory activities, and problem-solving activities based on wheel and axle concepts.

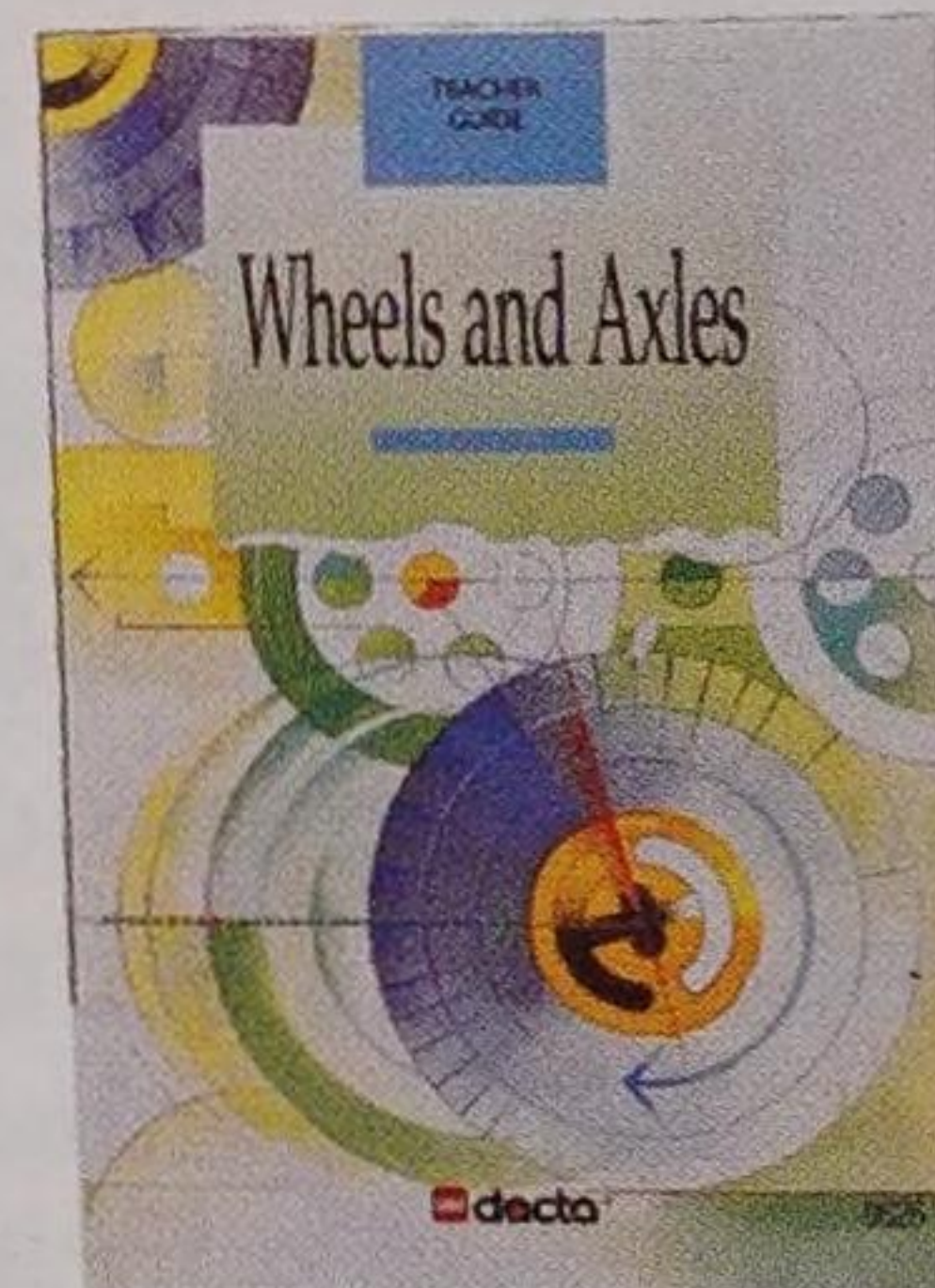
Also contains:

- Photographs of everyday devices that use wheels and axles
- Suggested problem solutions
- Assessment ideas

**D779626—\$6**

**SPANISH VERSION**

**D209626—\$6**



**LEGO Technic**

## TECHNIC WHEELS AND AXLES MINI SET #779616

75 elements

This set provides hands-on learning about single and separate axles, steering, rollers, winch handles, and friction.

- Designed to be used by students working in pairs
- 2 building cards with pictorial instructions
- Sturdy plastic storage case with clear compartmentalized tray
- Cleanup and inventory made simple with pictorial parts list

**D779616—\$17.25**

**FreeFax™ Orders!**  
**888-534-6784**





## TECHNIC GEARS MINI SET

#779610

67 elements

Using the two activity cards, students build a merry-go-round and a fan. Both models demonstrate how gears can multiply speed. By counting the number of turns and rotations, students can calculate the gear ratios.

- Designed to be used by students working in pairs
- 2 building cards with step-by-step instructions
- Sturdy plastic storage case with clear compartmentalized tray
- Cleanup and inventory made simple with pictorial parts list

D779610—\$17.25

Motorized Simple  
Machines ..... 24-25  
LEGO CAD. .... 26  
• Wheels & Axles/  
Gears ..... 28-29  
Levers/Pulleys. . . 30-31  
Primary Simple  
Machines ..... 32-33  
Mousetrap  
Vehicles. .... 40-41

## STANDARDS

These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site:  
[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

## Best Buy!

## GEARS CLASS PACK #779640

This pack contains enough materials for 24 students (working in pairs) to discover the basic principles of gears. Includes:

- 12 *Gears Mini Sets* (#779610), each with its own plastic storage case
- 20-page teacher guide (#779620)

D779640—\$201.75



## GEARS TEACHER GUIDE #779620

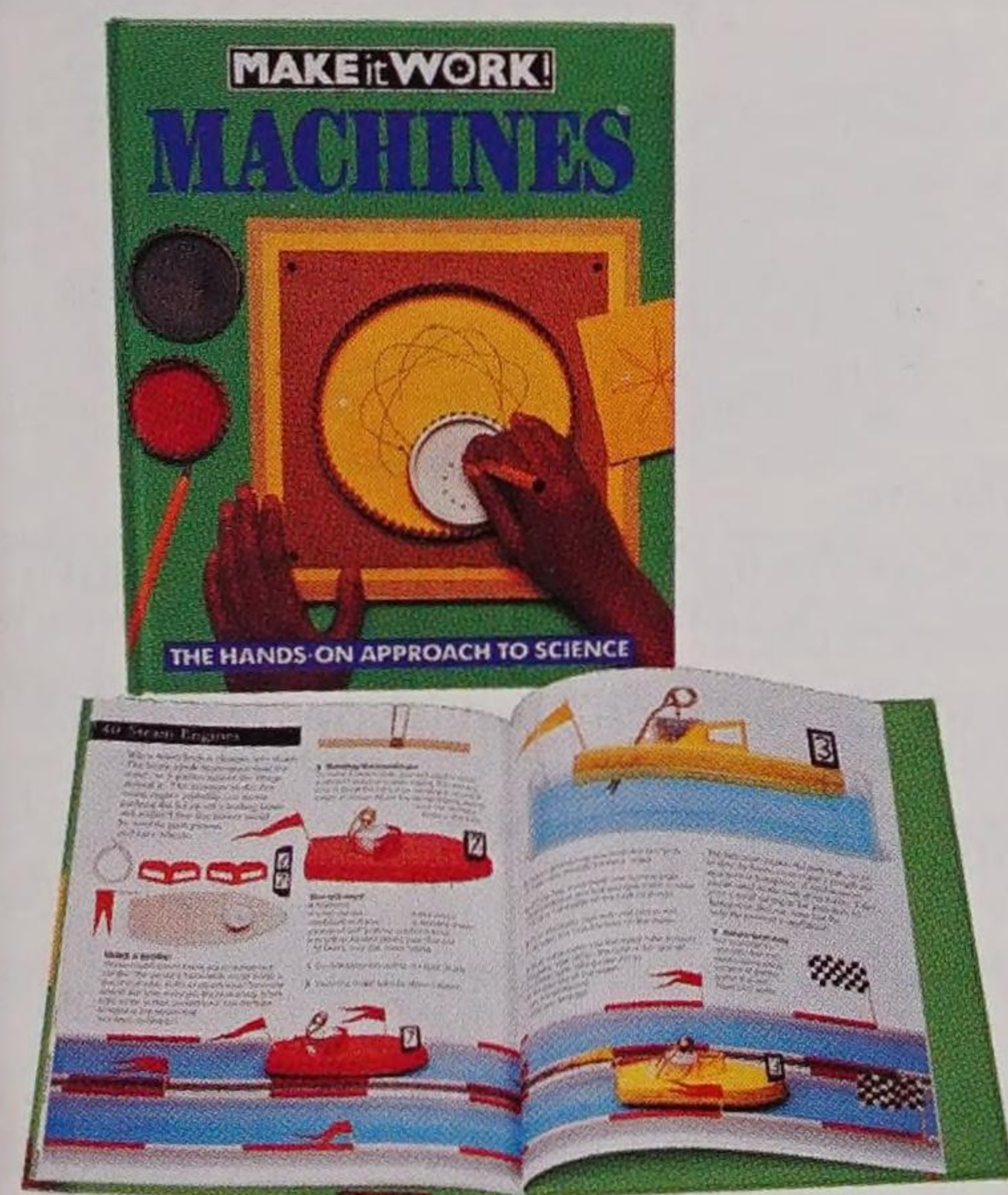
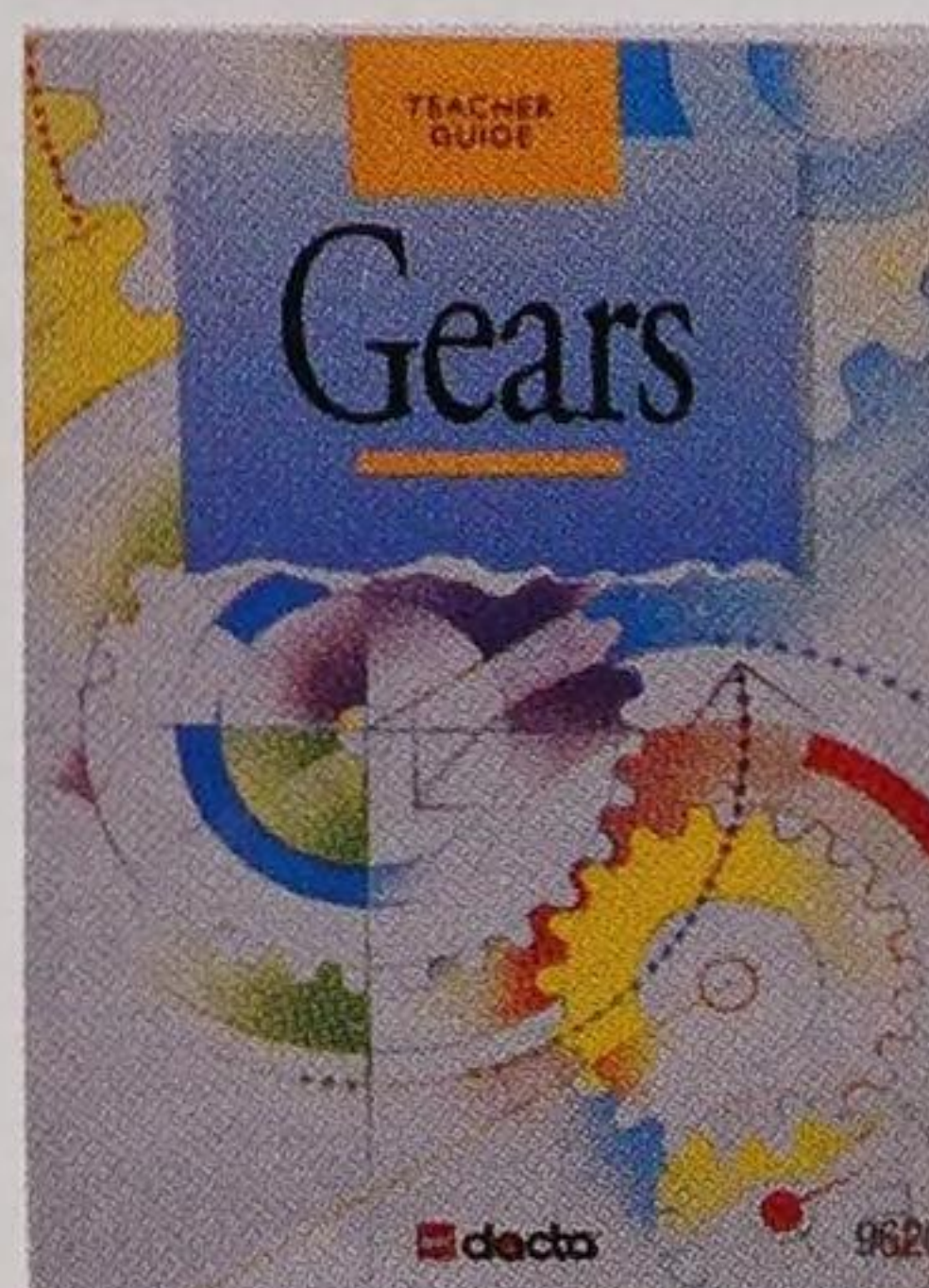
This 20-page guide contains 10 lesson plans, introductory gear activities, and problem-solving activities based on gear concepts. Also contains:

- Photographs of real-world gear devices
- Background information
- Suggested problem solutions
- Assessment ideas

D779620—\$6

**SPANISH VERSION**

D209620—\$6

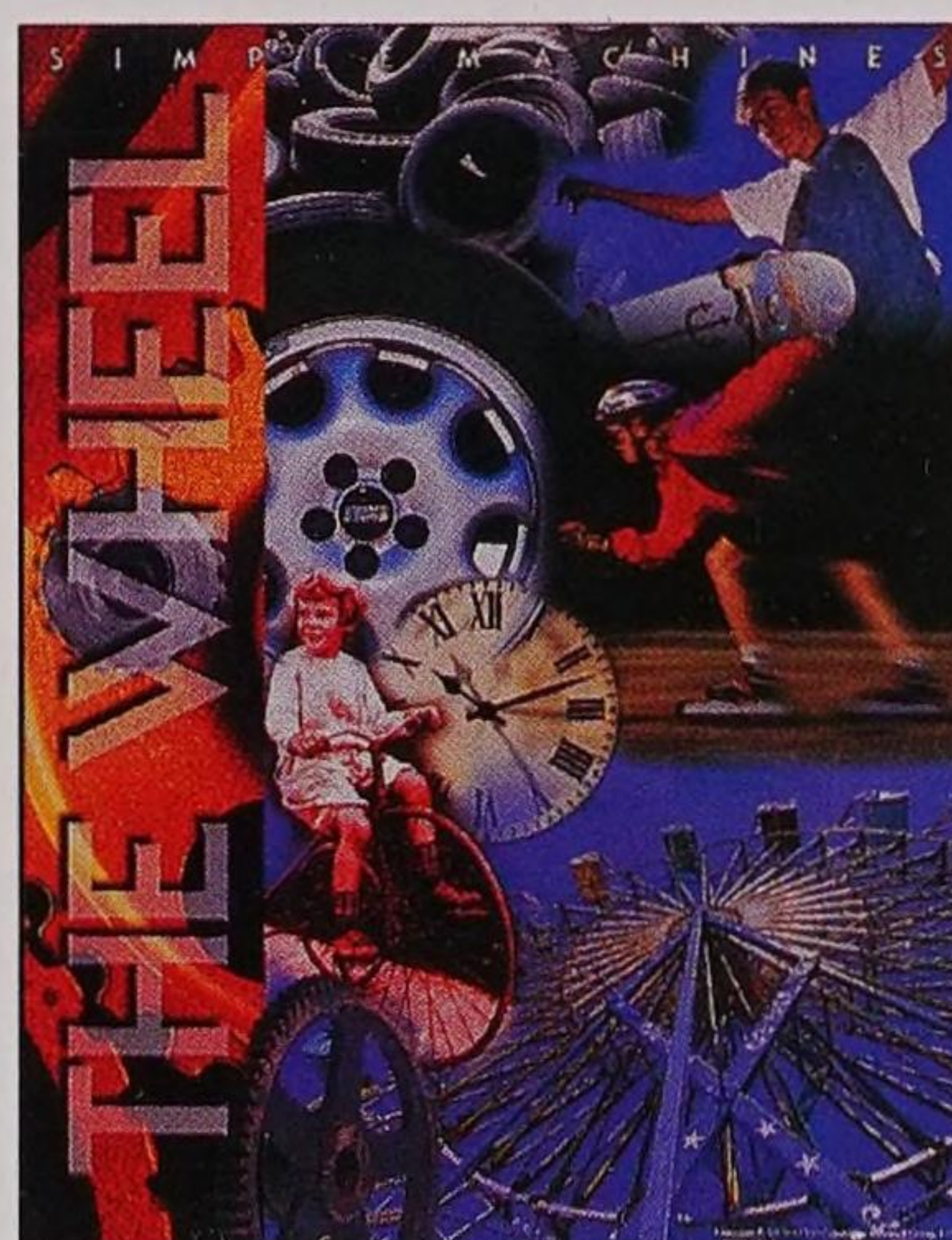


## MAKE IT WORK! MACHINES

Through conducting their own experiments, students discover scientific principles! They'll learn answers to puzzling questions – Why do bicycles have gears? What makes a pendulum swing? How do pulleys make heavy loads lighter? – They'll build a popcorn dispenser, drawing enlarger, marble-operated clock, and a cool rocket. Hardback, 48 pages.

Level: Intermediate-Middle School

D752170—\$11.95



## THE WHEEL POSTER

17" x 22"

D756050—\$5.95

**PITSCO** **dacta**  
PARTNERS IN INNOVATIVE EDUCATION

## Ideal Classroom Setup for 24 students

- 1 - Wheels and Axles Class Pack (D779646)
- OR
- 1 - Gears Class Pack (D779640)
- 1 - Make It Work! Machines Book (D752170)
- 1 - Each of Simple Machines Posters pg. 35
- 1 - Machines Book (D715808) pg. 33
- 1 - The Way Things Work CD-ROM (D754534) pg. 34
- 1 - Simple Machines Made Simple (D756122) pg. 34

**Total: \$334.35**  
plus shipping



# 30 Levers/Pulleys



**LEGO Technic**

## TECHNIC LEVERS MINI SET #779612

62 elements

This set provides hands-on experience in working with the three classes of levers. Students build two exciting projects and learn important lever concepts.

- Designed to be used with students working in pairs
- 2 building cards with pictorial instructions
- Sturdy plastic storage case with clear compartmentalized tray
- Cleanup and inventory made simple with pictorial parts list

**D779612—\$17.25**

**Order Online!**

[www.pitsco-legodacta-store.com](http://www.pitsco-legodacta-store.com)

**Best Buy!**

## LEVERS CLASS PACK #779642

Twenty-four students, working in pairs can experience hands-on learning about levers with this classroom pack. The pack includes:

- 12 *Levers Mini Sets* (#779612), each with its own snap-lid storage case
- 20-page teacher guide (#779622)

**D779642—\$201.75**

## LEVERS TEACHER GUIDE #779622

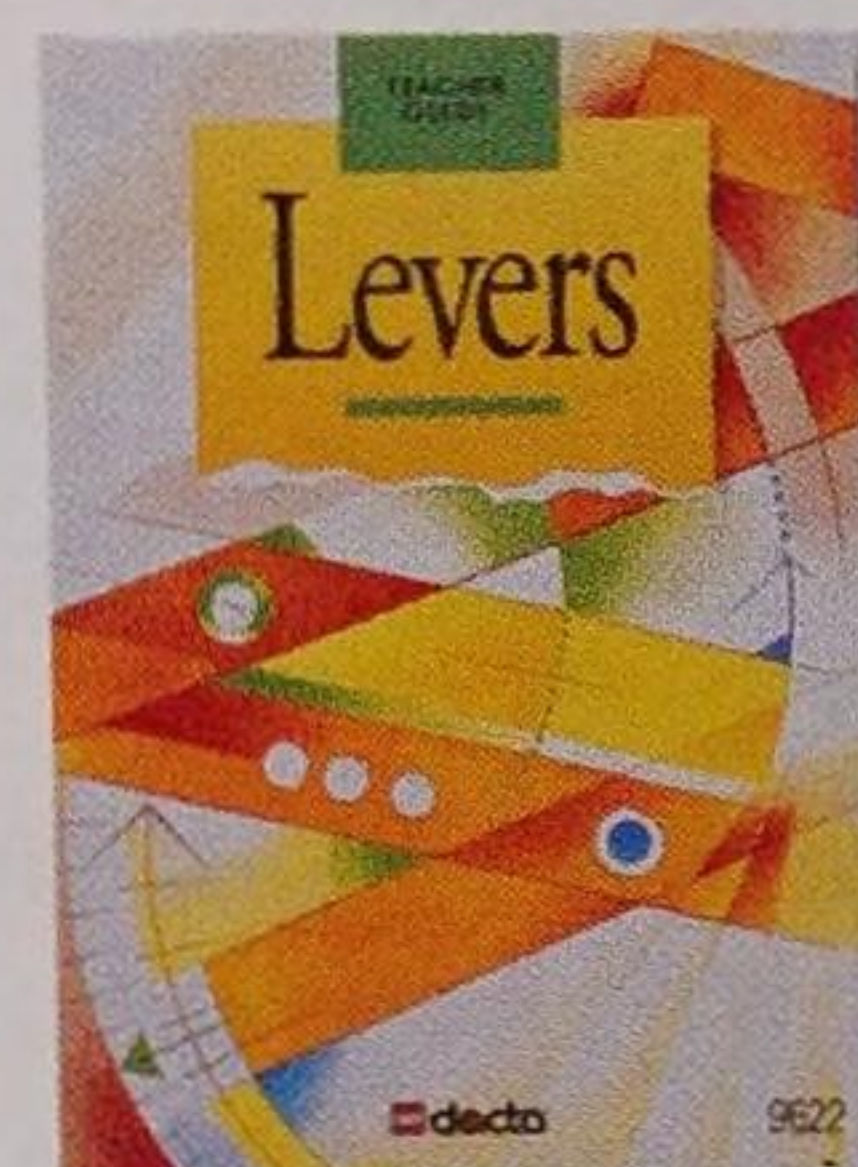
This 20-page guide contains seven lesson plans, introductory lever activities, and problem-solving activities based on lever concepts. Also contains:

- Photographs of real-world lever devices
- Background information
- Suggested problem solutions
- Assessment ideas

**D779622—\$6**

**SPANISH VERSION**

**D209622—\$6**







**TECHNIC PULLEYS MINI SET**

**#779614**

75 elements

Students build and work with models to investigate fixed and movable pulleys and belt drives.

- Designed to be used by students working in pairs
- 2 building cards with step-by-step instructions
- Sturdy plastic storage case with clear compartmentalized tray
- Cleanup and inventory made simple with pictorial parts list

**D779614—\$17.25**

*Motorized Simple Machines . . . . . 24-25*  
*LEGO CAD . . . . . 26*  
*Wheels & Axles/ Gears . . . . . 28-29*  
*• Levers/Pulleys . . . 30-31*  
*Primary Simple Machines . . . . . 32-33*  
*Mousetrap Vehicles . . . . . 40-41*

**STANDARDS**

These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site:

[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

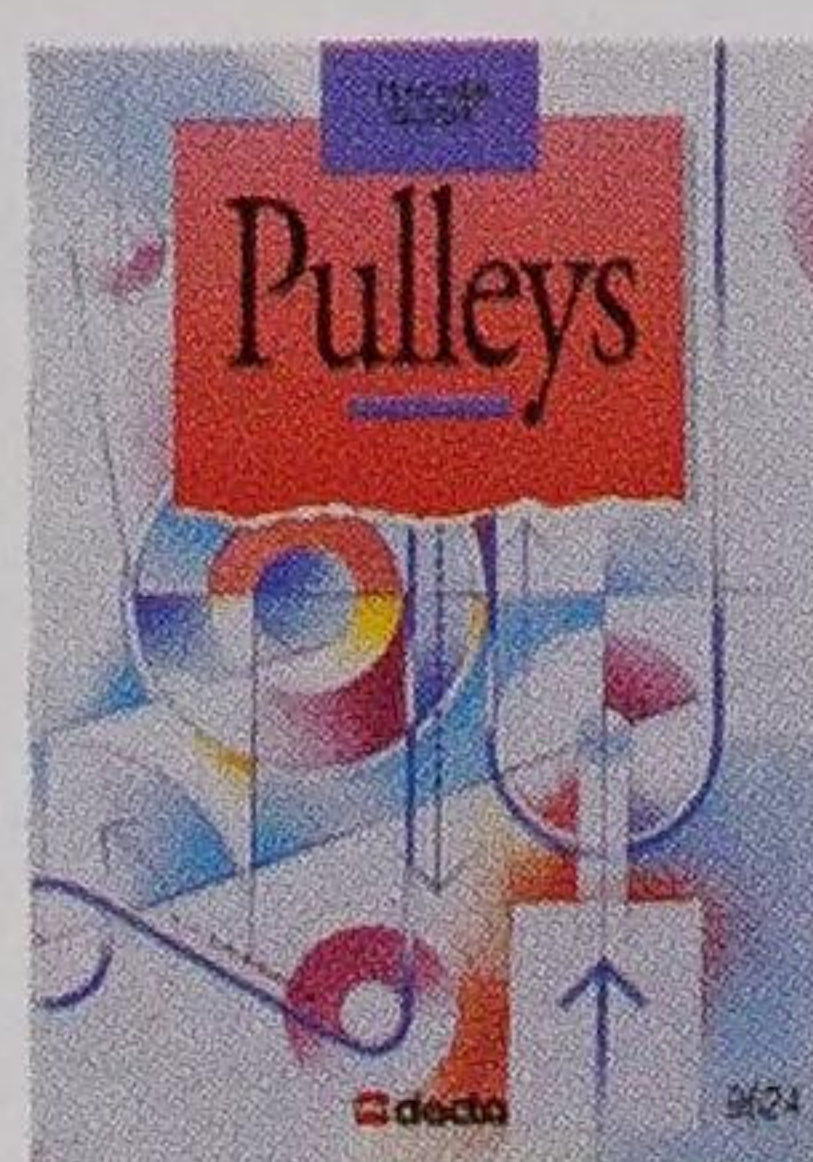
**Best Buy!**

**PULLEYS CLASS PACK #779644**

This pack delivers the hands-on learning of the *Pulleys Mini Set* to the entire class! Serves 24 students working in teams of two.

- 12 *Pulleys Mini Sets* (#779614)
- 20-page *Pulleys* teacher guide (#779624)
- Individual storage case with each set

**D779644—\$201.75**



**PULLEYS TEACHER GUIDE**

**#779624**

This 20-page guide contains 12 lesson plans, introductory pulley activities, and problem-solving activities based on pulley concepts. Also contains:

- Photographs of real-world pulley devices
- Background information for each subject
- Suggested problem solutions
- Assessment ideas

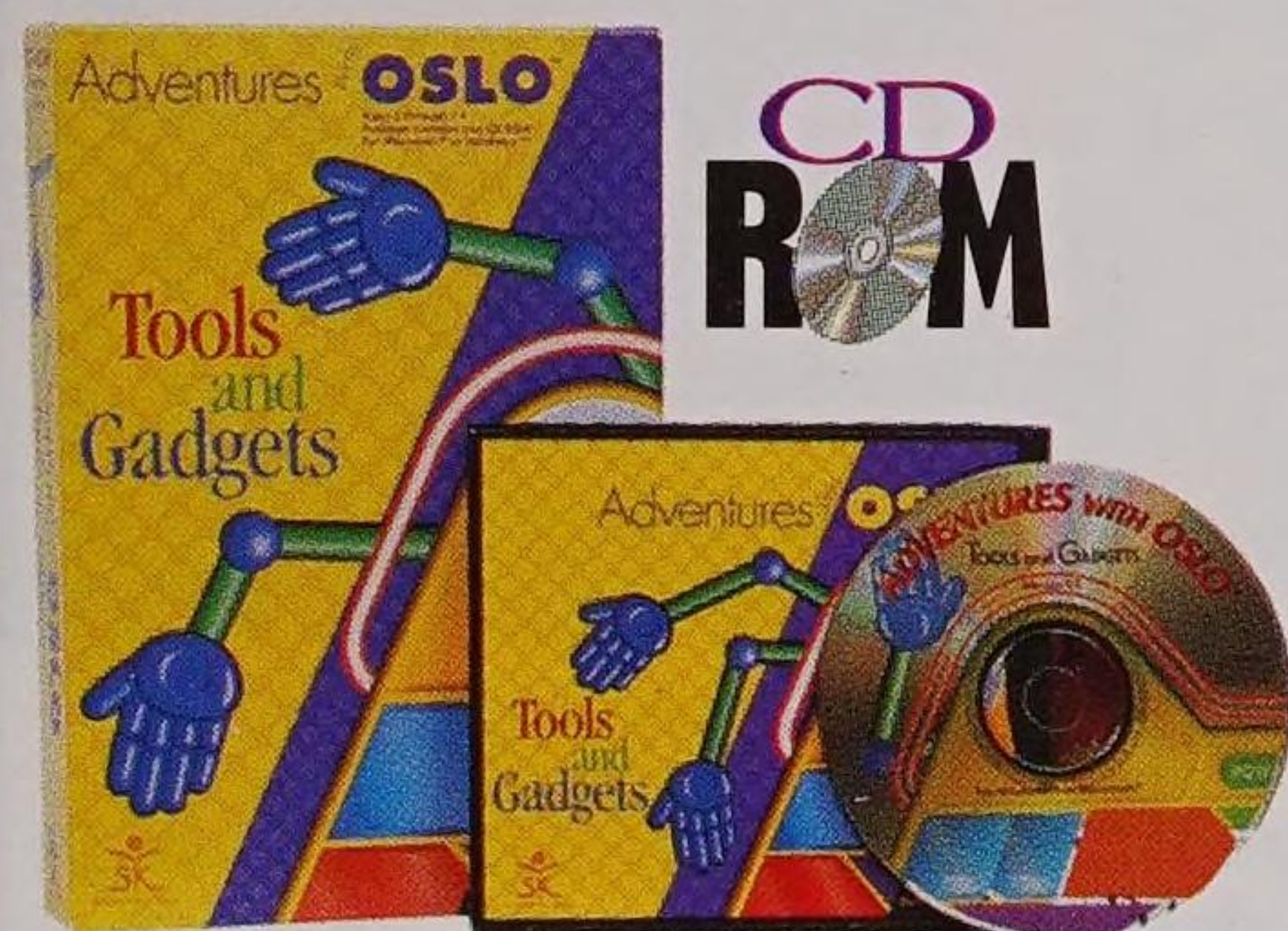
**D779624—\$6**

**SPANISH VERSION**

**D209624—\$6**

**TOOLS AND GADGETS**

Young students (ages 5-14) will have fun learning about tools, gadgets, and simple machines with this entertaining software. An animated storybook, adventure game,



coloring gallery, and a maze arcade are some of the fun and innovative methods *Tools and Gadgets* uses to teach students about simple machines.

Also includes an interactive database that uncovers the six classes of simple machines – the inclined plane, screw, pulley, wheel and axle, lever, and wedge.

**D752615 Macintosh/Windows CD-ROM—\$40**

**MACHINES**

Janice VanCleave

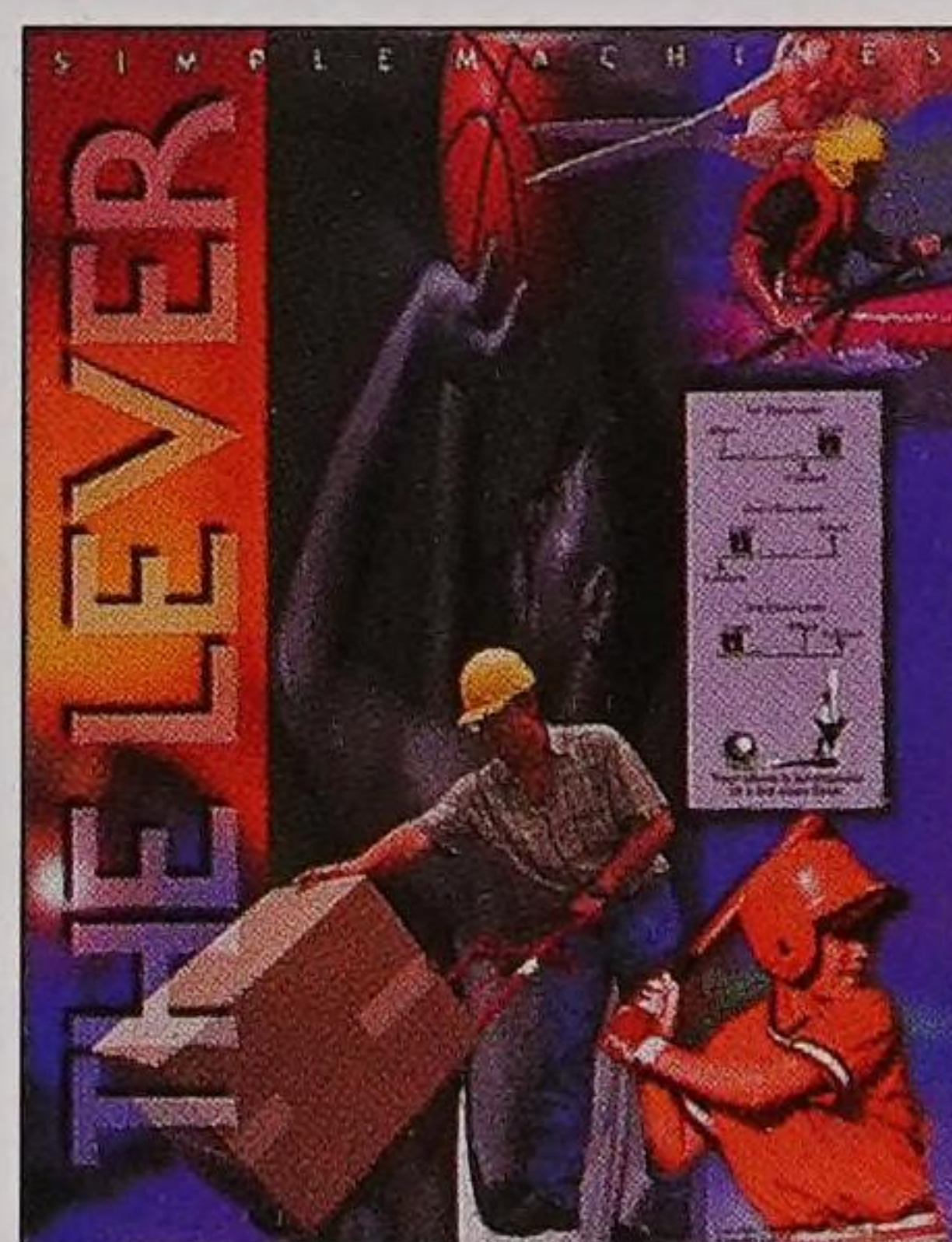
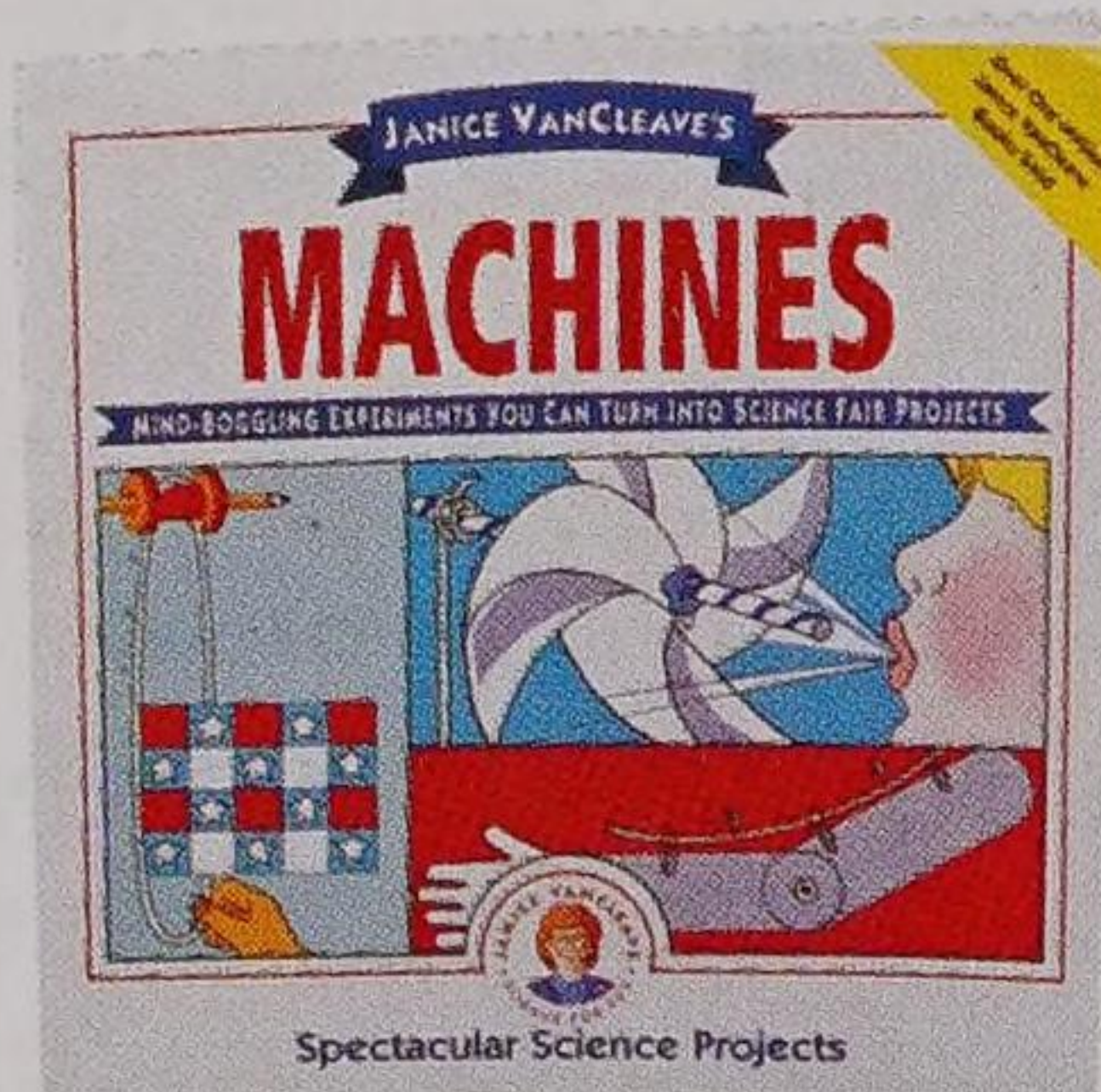
In her own special style, VanCleave brings us this fact-filled book about machines.

This is a great introduction of the scientific principles of simple machines in an easy-to-read format.

Have this book available for student reading and as a resource for hands-on activities about machines. Paperback, 87 pages.

Level: Intermediate-Middle School

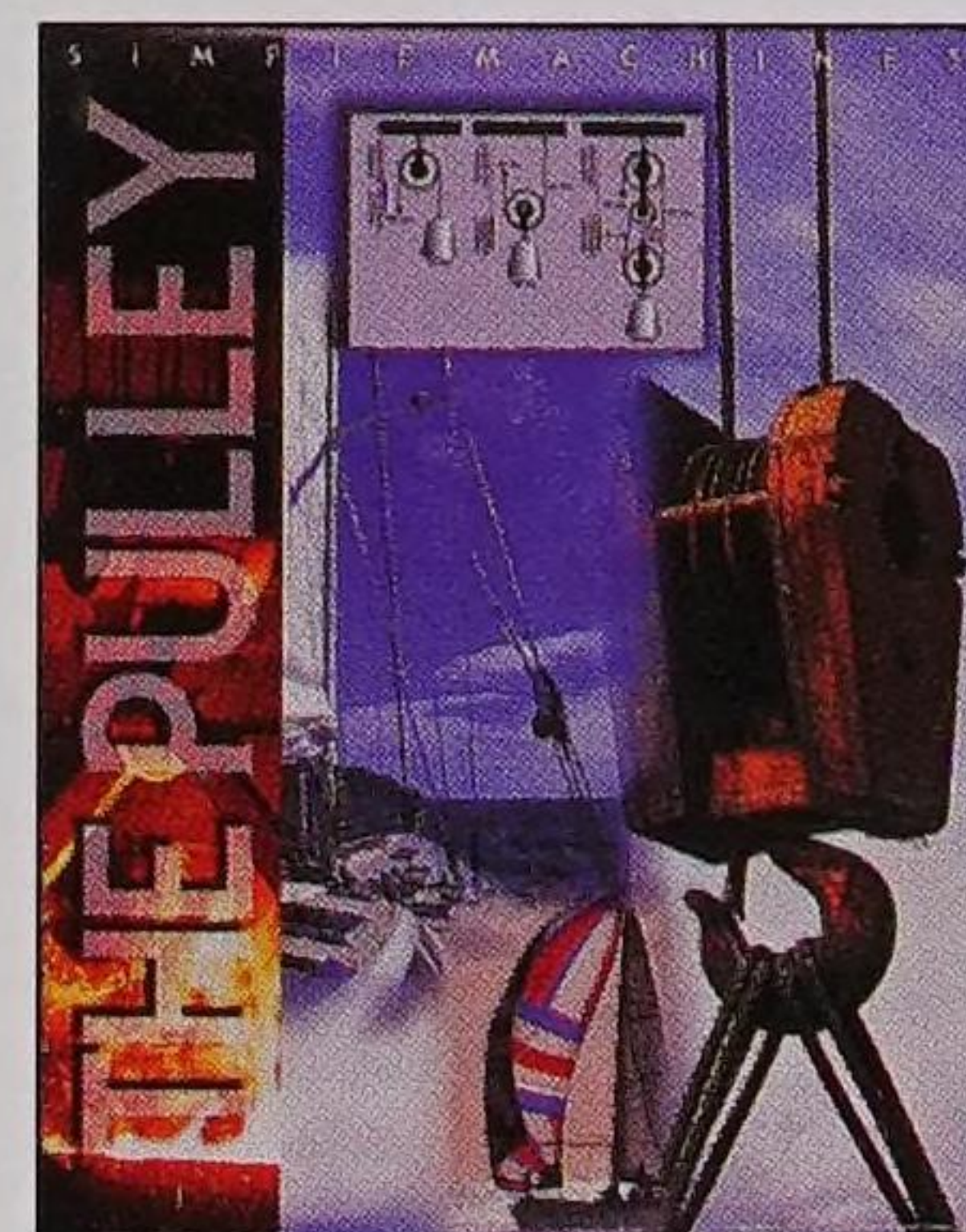
**D715808—\$10.95**



**THE LEVER POSTER**

17" x 22"

**D756055—\$5.95**



**THE PULLEY POSTER**

17" x 22"

**D756052—\$5.95**

**Ideal Classroom Setup**  
for 24 students

- 1 - Levers Class Pack (D779642) OR
- 1 - Pulleys Class Pack (D779644)
- 1 - Make It Work! Machines Book (D752170) pg. 31
- 1 - Each of Simple Machines Posters pg. 35
- 1 - Machines Book (D715808)
- 1 - The Way Things Work CD-ROM (D754534) pg. 34
- 1 - Simple Machines Made Simple (D756122) pg. 34

**Total: \$334.35**  
plus shipping



# 32 Primary Simple Machines



## PRIMARY SIMPLE MACHINES SET #779654

99 DUPLO elements

Young children build fun and simple models, such as a seesaw, rolling vehicle, hand-operated lift, and a merry-go-round. By playing with and manipulating the models, they experience pulleys, levers, gears, and wheels and axles.

- Designed for use by teams of 2-3 children
- Full-color activity cards with pictorial instructions for 14 models
- Plastic bin for easy cleanup and storage

D779654—\$96

## PRIMARY SIMPLE MACHINES TEACHER'S GUIDE #209664

Designed to supplement the *Primary Simple Machines Set*, this pack includes a 36-page teacher's guide. The guide has excellent suggestions for introducing science concepts, hands-on exploration, and thematic activities.

D209664—\$25



**Call Toll Free!**  
**800-362-4308**





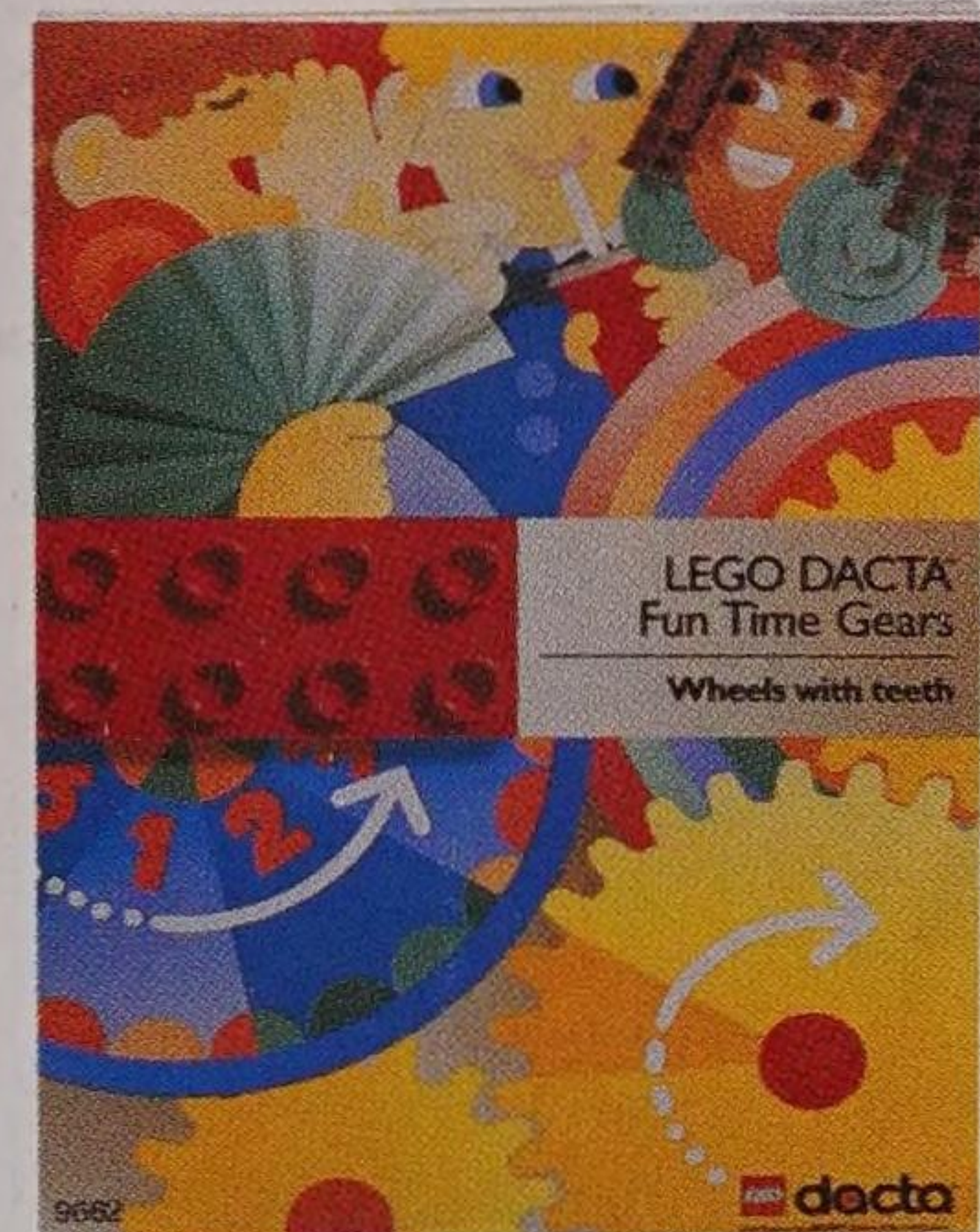
## FUN TIME GEARS SET #779652

32 DUPLO elements

Students explore gears by building three models: a hand-operated paper crimper, top and spinner, and a turntable pattern maker. Students can use the paper crimper and pattern maker to make colorful, creative art projects!

- Designed to be used by a pair of students
- 2 full-color activity cards with three projects
- Plastic storage bin

**D779652—\$43.50**



## FUN TIME GEARS TEACHER'S GUIDE #779662

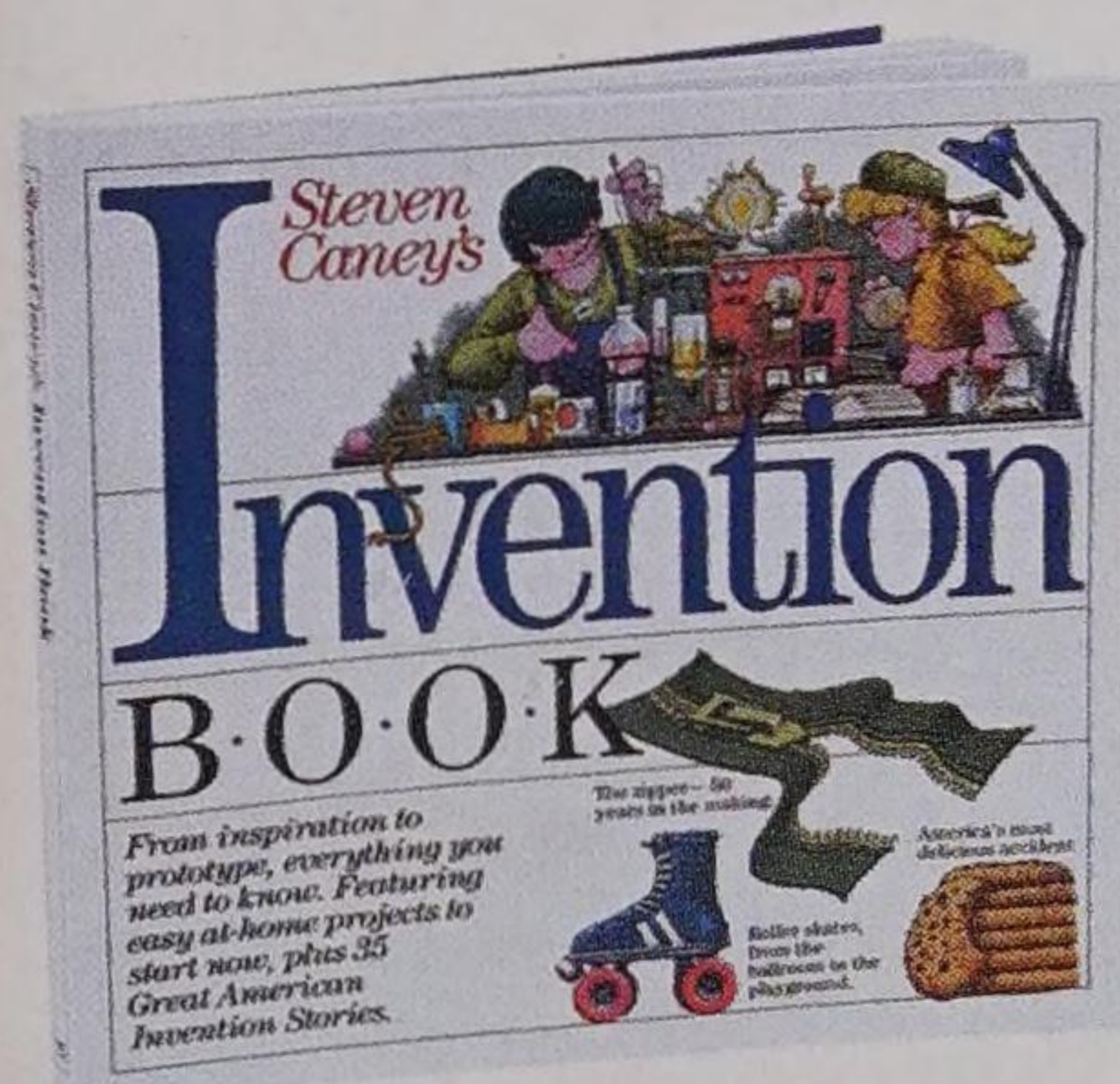
An excellent supplement to the *Fun Time Gears Set*. Contains thematic ideas, discovering gears in everyday machines, and science concepts. Also includes support for the activities, art projects, and more. 20 pages.

**D779662—\$6**

## FUN TIME GEARS II TEACHER'S GUIDE #209665

An excellent 20-page idea book designed to supplement the *Fun Time Gears II Set*. Contains background information about gears and how they are used in the real world.

**D209665—\$6**



## INVENTION BOOK

This book explains each step of the process of being an inventor.

*Invention* uniquely discusses the fundamentals of setting up a workshop, building models of the invention, creating a name for it, plus record keeping, planning, packaging, and marketing. This book leads students ages 10 and up directly into the world of creativity. Paperback, 207 pages.

Level: Intermediate-Middle School

**D753129—\$10.95**



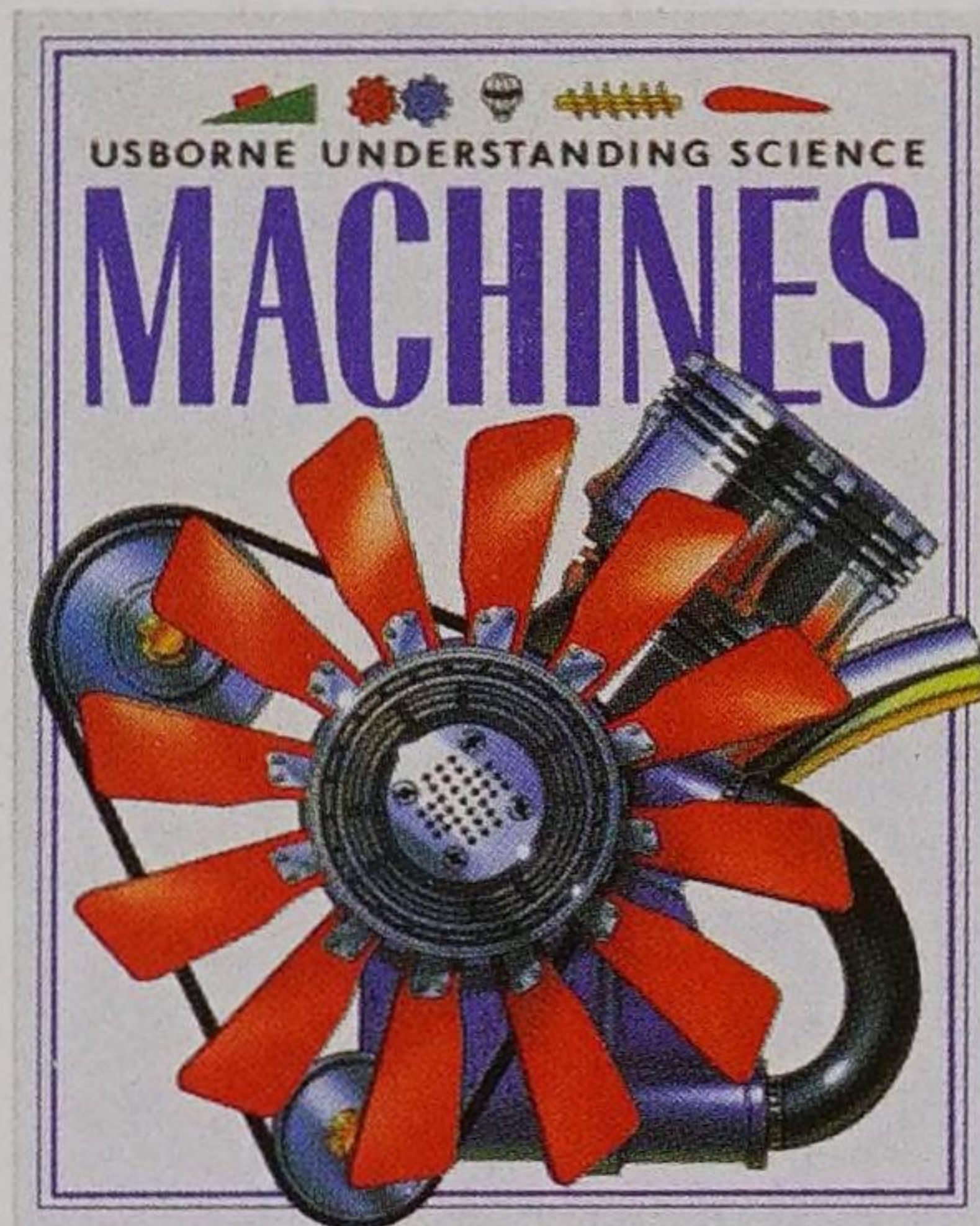
## FUN TIME GEARS II SET #779655

46 DUPLO elements

A follow-up to the *Fun Time Gears Set*, this new set allows students to progress even further! *Fun Time Gears II* introduces new key elements, giving a whole new range of models for student exploration. Models include the Drill, Cruncher, Gate, and Bike.

- A pair of students team up to discover gear concepts
- 3 full-color laminated building cards
- Plastic storage bin

**D779655—\$52.25**



## USBORNE: MACHINES

What do a pair of scissors and a satellite have in common? Find out in this fascinating book that explains everything from what machines do to how they help people every day. Includes a glossary of terms and colorful illustrations. Land machines, flying machines, time machines, the human machine . . . they're all included!

Paperback, 32 pages.

Level: Intermediate-Middle School

**D756061—\$6.95**

Motorized Simple Machines . . . . .	24-25
LEGO CAD. . . . .	26
Wheels & Axles/	
Gears . . . . .	28-29
Levers/Pulleys. . .	30-31
• Primary Simple Machines . . . . .	32-33
Mousetrap Vehicles. . . . .	40-41

## STANDARDS

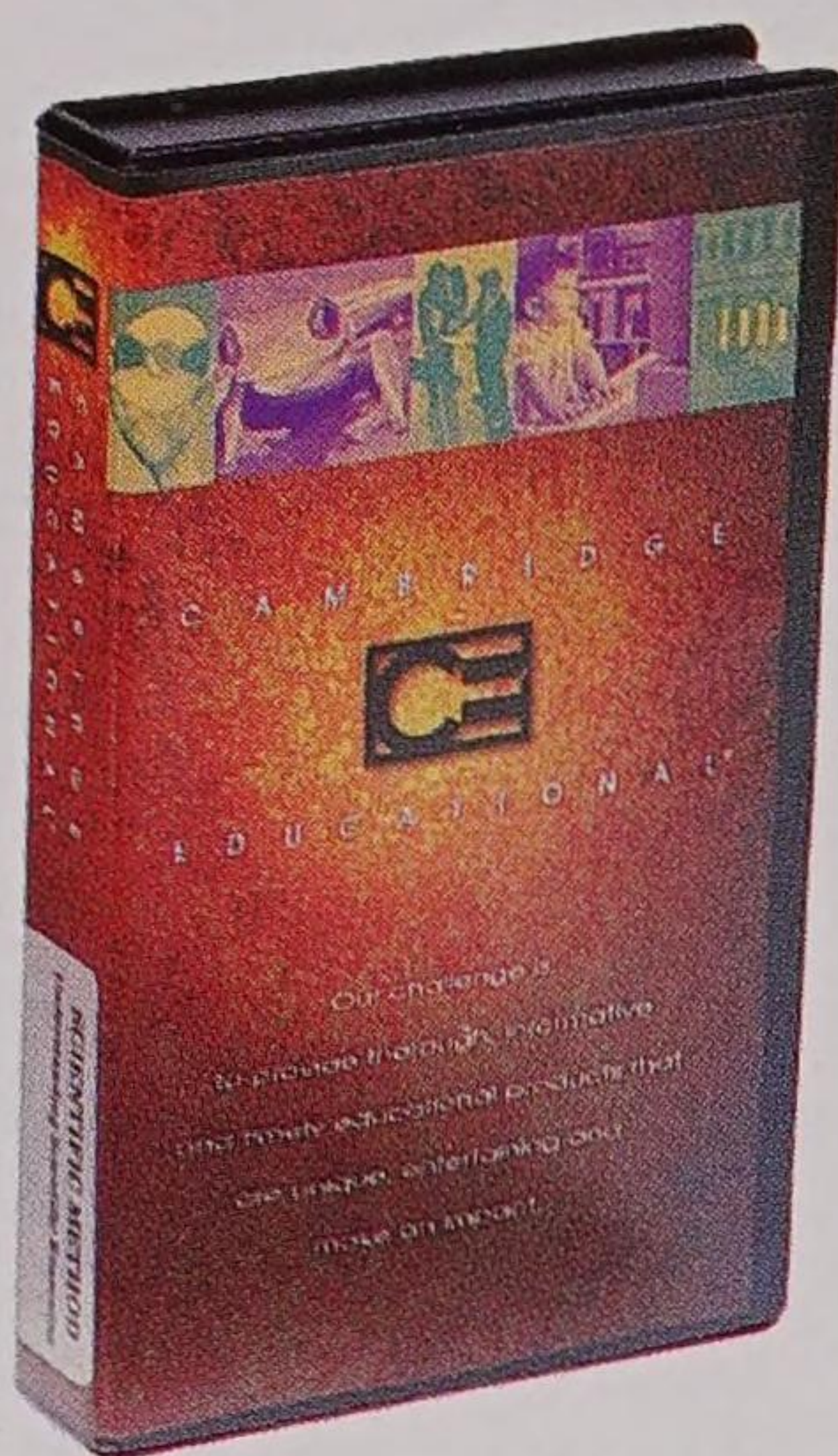
These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site: [www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

## Ideal Classroom Setup for 24 students

- 6 - Primary Simple Machines Sets (D779654)
- 1 - PSM Teacher's Guide (D209664)
- 1 - Invention Book (D753129)

**Total: \$611.95**  
plus shipping





## New SCIENTIFIC METHOD: UNDERSTANDING SCIENTIFIC REASONING VIDEO

This video from Cambridge Educational leads students clearly and simply through the steps of the scientific process, using examples from both scientific laboratories and everyday life. It covers

the differences between important concepts, such as theory and hypothesis, dependent variable and independent variable, and pure and applied sciences. Time: About 20 minutes.

Level: Middle School-High School

D756853—\$89

## Problem solving like a scientist.

BY THE BOOK...

### Problem

- Develop a question to be researched and answered.
- The question asks what you want to know.

### Hypothesis

- Formulate a statement, based on prior knowledge, which predicts the outcome of experiments conducted to answer the "problem" question.

### Materials

- List all the materials needed.

### Procedure

- Describe a plan for collecting information to answer the "problem" question in a step-by-step form.

### Experiment

- Conduct experiments by following the procedure plan.
- Record what measurements and data were collected.

### Conclusion

- Answer the "problem" question and explain the meaning of the experiment results by using written or graphic communication like charts, tables and pictures.

WHAT IT REALLY MEANS...

### What's the problem?!

- My stomach's rumblin', so what's going on?

### What am I gonna do about it?

- I think I'm hungry. Maybe if I ate a pizza I wouldn't be hungry.

### What do I need?

- |              |              |
|--------------|--------------|
| Pizza Recipe | Cheese       |
| Pepperoni    | Tomato Paste |
| Sausage      | Bread Dough  |

### How do I know if it works?

- Follow recipe & prepare materials for baking.
- Bake pizza in oven for allotted time.
- Eat pizza and observe hunger status.

### What are we waiting for?!

Let's start cookin' already!

- Follow the recipe above
- Measure the results (are you still hungry?)

### So what happened?

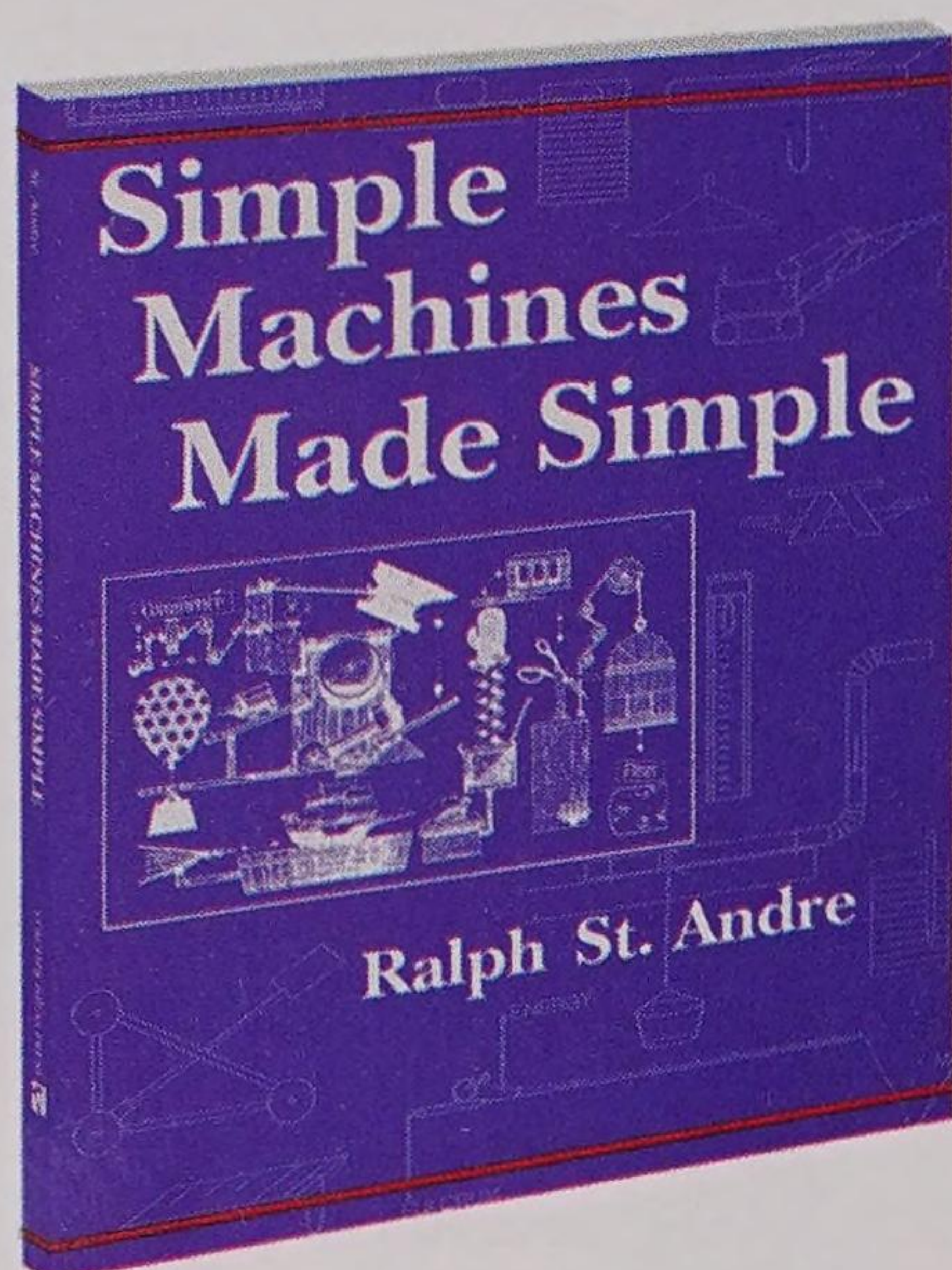
Well, what do you think?

- I was hungry and now I'm stuffed! In the future if I am hungry, I'll follow the procedure to fix it! Make a chart to show your hunger status before and after the pizza.

## PROBLEM-SOLVING POSTER

Bet you never knew pizza could be part of the scientific problem-solving process. This clever chart clearly and concisely describes each step of the process and relates it to something with which every student is familiar – eating a pizza! 11" x 17"

D756194—\$4.95

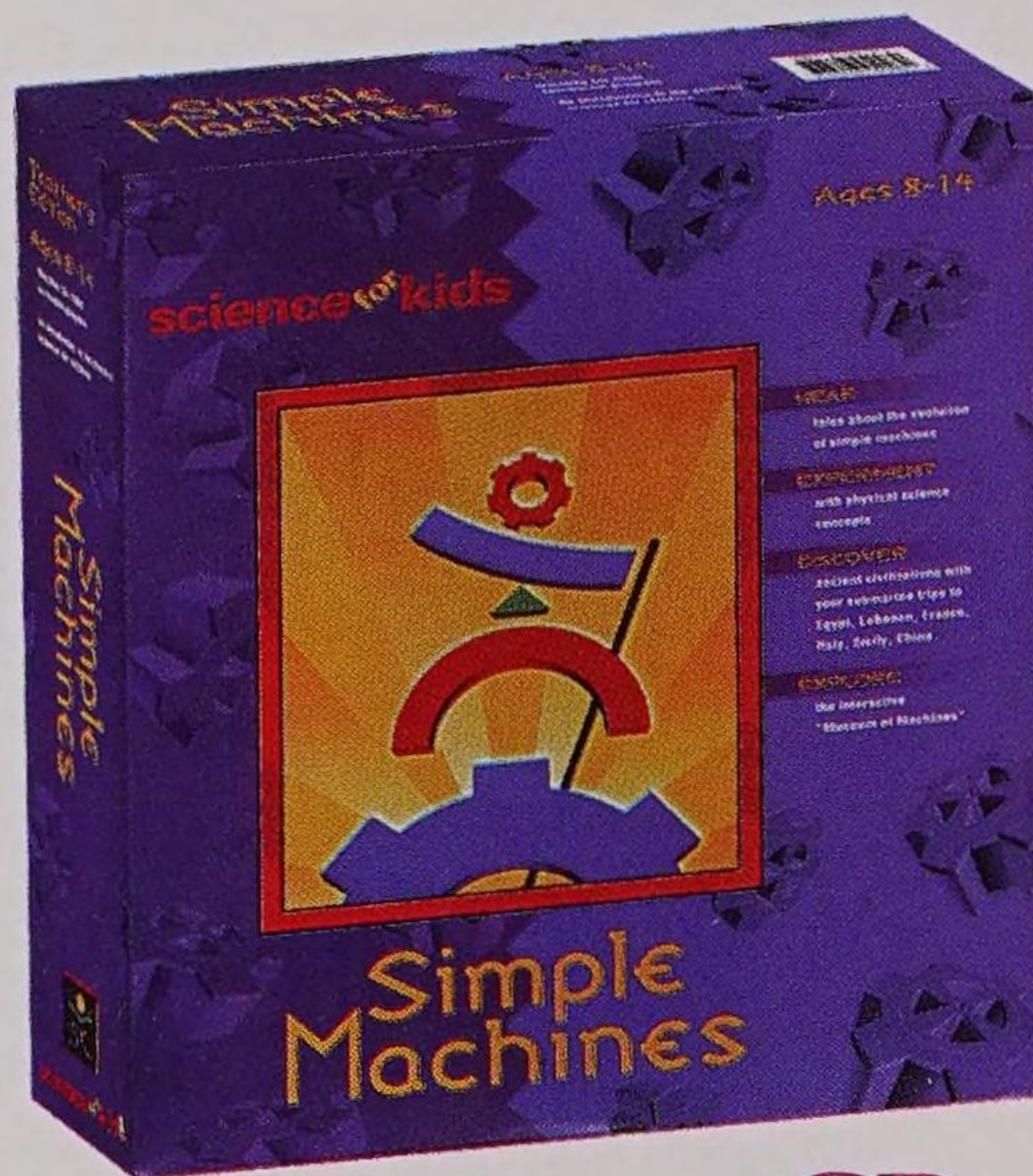


## SIMPLE MACHINES MADE SIMPLE

Teach your students essential scientific principles and basic mechanics through hands-on, cooperative learning activities that are not only easy to teach but also inexpensive and fun. As students experiment with gadgets that slide, pivot, turn, rub, and work, they learn why and how machines operate the way they do. Illustrated, step-by-step instructions, materials lists, reproducible activity and assessment sheets, and estimated time required for activities make this a unique and practical resource. Paperback, 150 pages.

Level: Middle School

D756122—\$25



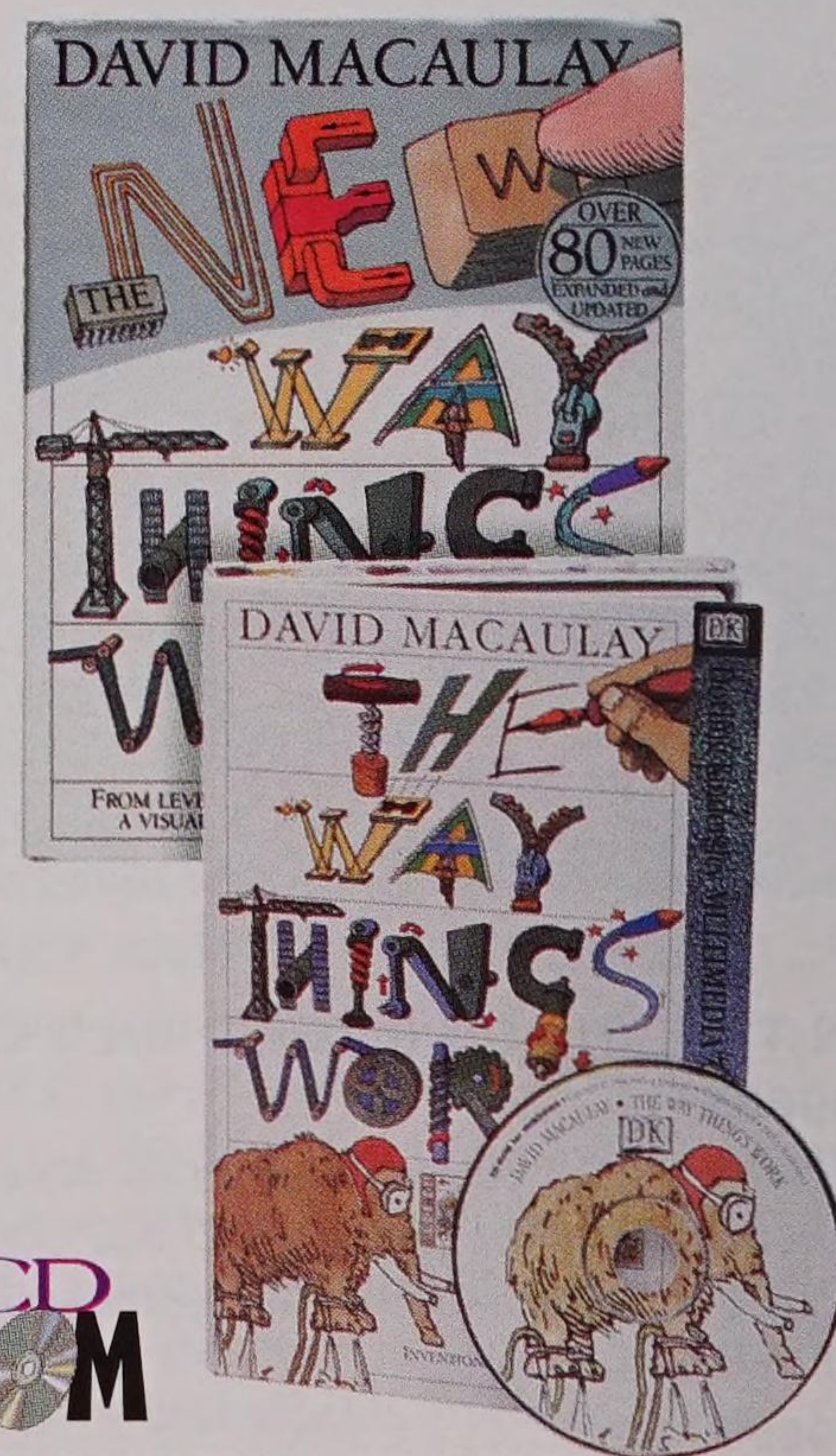
## SIMPLE MACHINES TEACHER'S EDITION



Students will explore the ancient application of six simple machines: the inclined plane, wedge, lever, screw, pulley, and wheel. They will learn how different cultures and civilizations adapted and progressed with the use of these simple machines. The program concludes with the students exploring an interactive "Museum of Machines" designed to show ancient tools, animal adaptations, and combinations of simple machines and compound machines. The kit includes: a teacher's guide, *Student Science Journal*, CD-ROM (Win/Mac), and Science Lab Kit.

Level: Intermediate

D756099—\$229



## THE WAY THINGS WORK ON CD-ROM

The ever-popular book by David Macaulay comes to life in this interactive CD-ROM! Vivid "zoom-in" illustrations and clear, easy-to-understand text descriptions help students comprehend the workings of machines, inventions, and technology.

The illustrations jump into motion in incredible and humorous animations. Includes over 1,000 illustrations, 300 animations, and more than 60 minutes of audio.

D754534 Mac/Win CD-ROM—\$49

D756435 384-page book—\$35





## INVENTION STUDIO CD-ROM

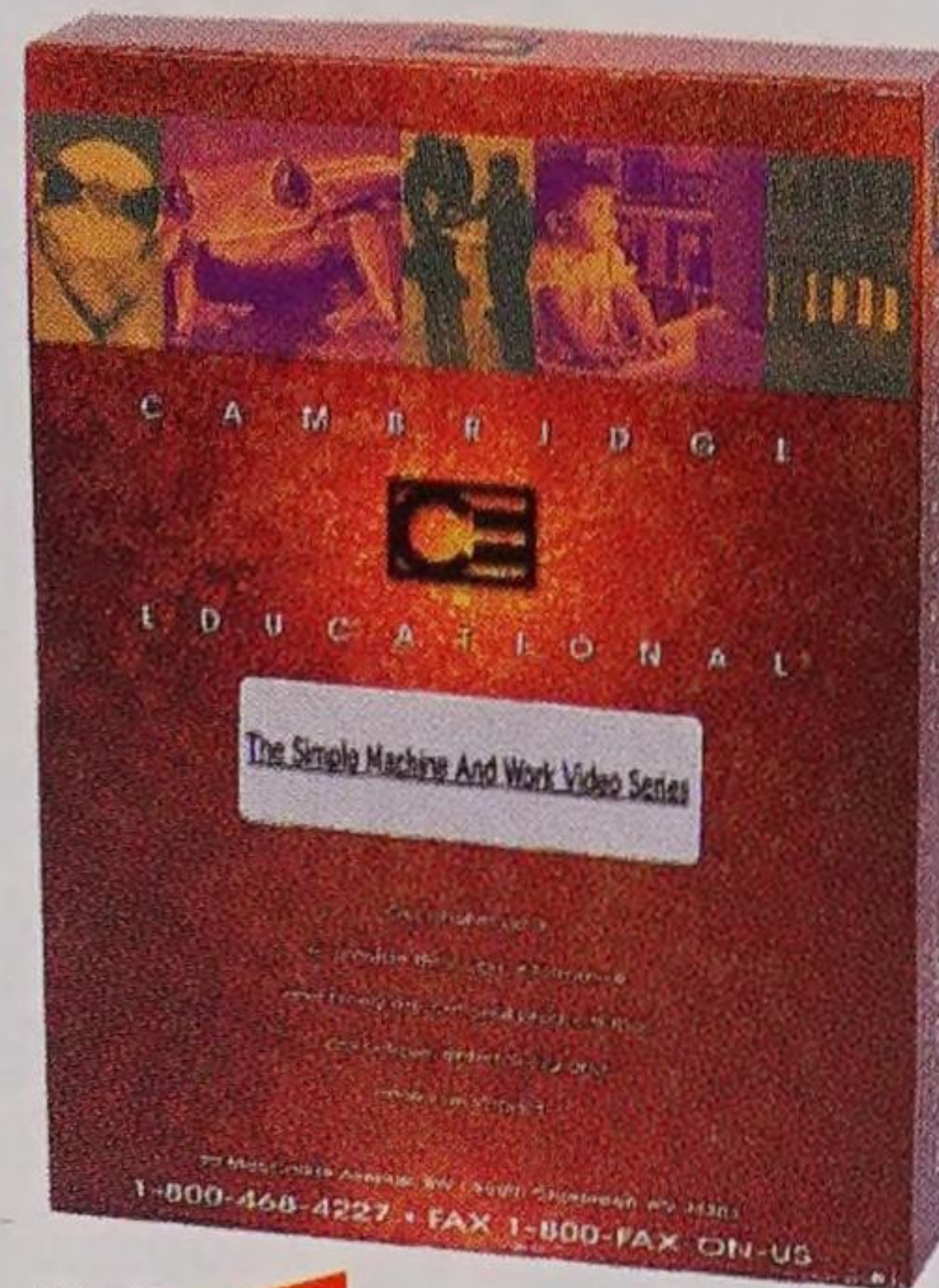
Design, build, and test your own real inventions. *Invention Studio* gets students' creative juices flowing with the Brainstormer. It walks them through the steps of invention to get started. Students can also learn about inventors and their inventions. Then, in the garage they get to design, build, and test cars, planes, and trucks.

**D754675 Windows—\$44**

## Section Supplements

35

Motorized Simple Machines . . . . .	24-25
LEGO CAD. . . . .	26
Wheels & Axles/ Gears . . . . .	28-29
Levers/Pulleys. . .	30-31
Primary Simple Machines . . . . .	32-33
Mousetrap Vehicles. . . . .	40-41



**New**

### THE SIMPLE MACHINE AND WORK VIDEO SERIES

This set of three videos covers the six simple machines and the concepts of energy and work. Simple explanations and clear diagrams are made memorable by the antics of a cartoon Neanderthal who demonstrates the use of each type of machine. The set includes two teacher's guides that give explanations and review questions with answers. Time: About 15 minutes each.

*Level: Intermediate-High School*

**D990213—\$179**



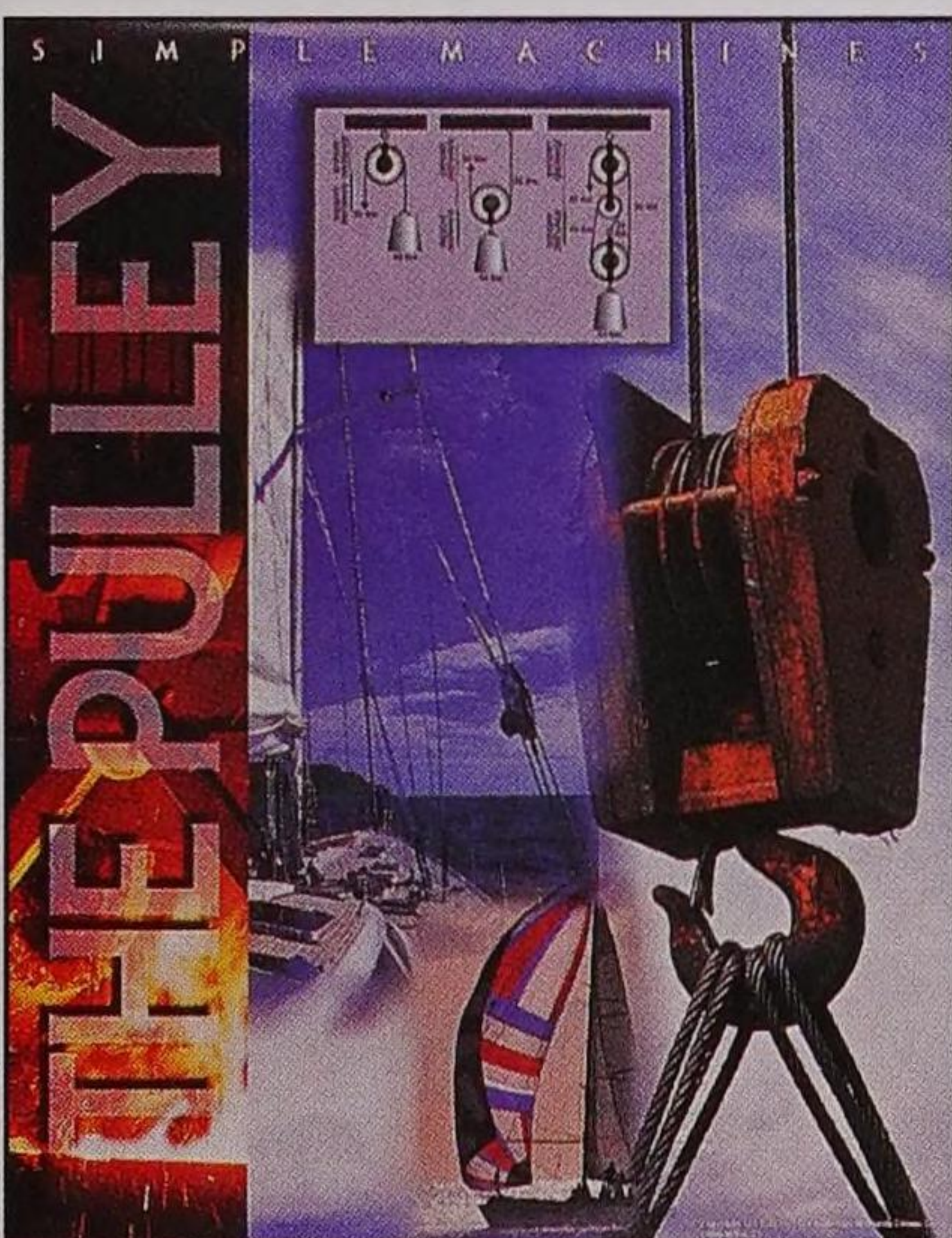
### CRAZY ACTION CONTRAPTIONS

A LEGO inventions book! With this zany project book and 60-piece set, kids are certain to have a blast inventing, tinkering, and watching in amazement as their contraptions jump into action.

Using the Lego Technic elements, they'll assemble five wacky and fun devices that really work – the Never-Look-Back-Machine,

Coat Hanger Daredevil, Skittle Tops, 9-Foot Rubber Band Racer, Balloon-Powered Rocket Car. With a few additional LEGO elements, they can assemble five more contraptions. The kid-friendly book has 64 full-color pages. Ages 7 and up.

**D756183—\$19.95**



### SIMPLE MACHINES POSTERS

This series of six posters is an excellent addition to any technology classroom. Includes The Wedge, The Lever, The Pulley, The Screw, The Wheel, and The Inclined Plane. Size: 17" x 22".

#### THE PULLEY

**D756052**

#### THE LEVER

**D756055**

#### THE WEDGE

**D756054**

#### THE WHEEL

**D756050**

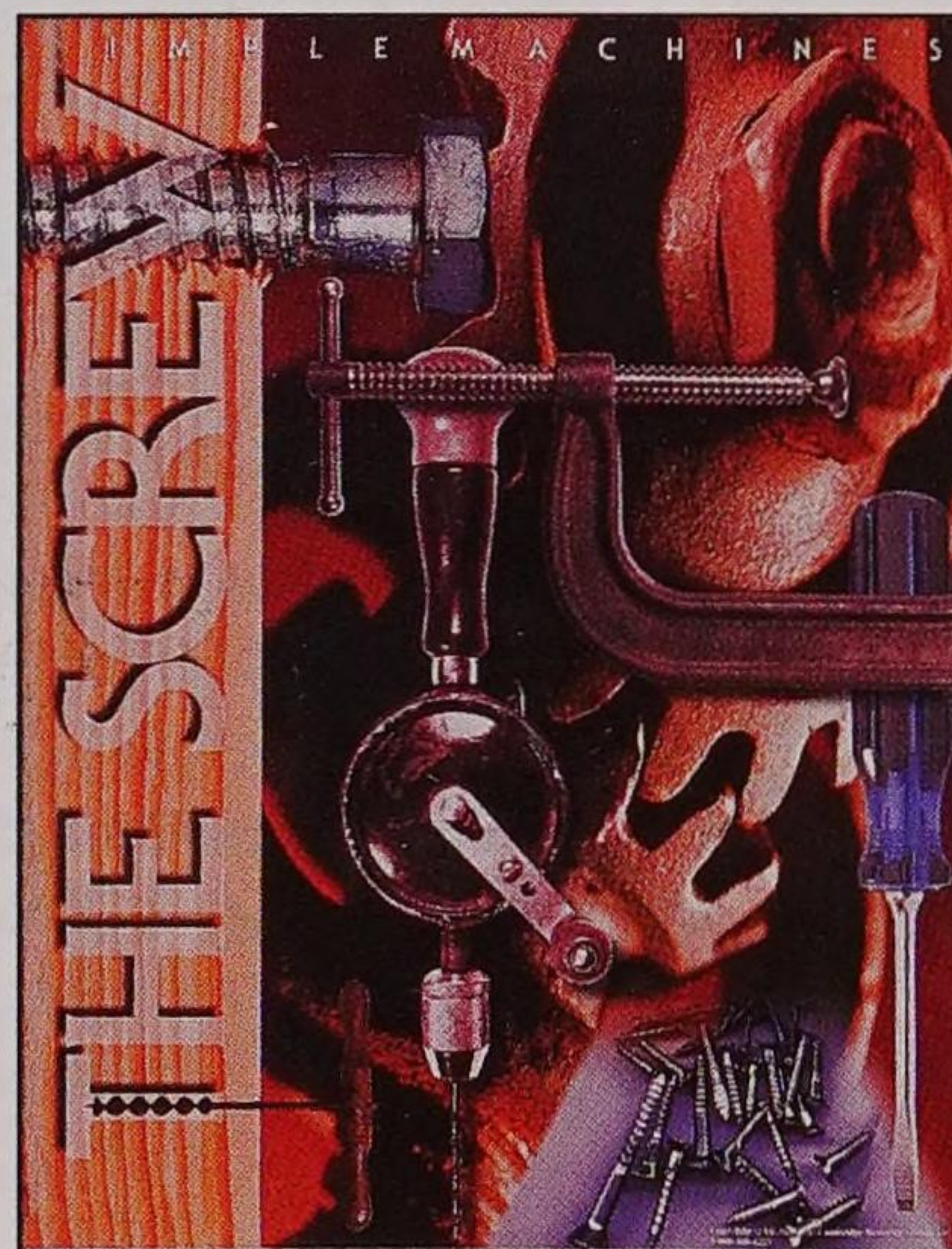
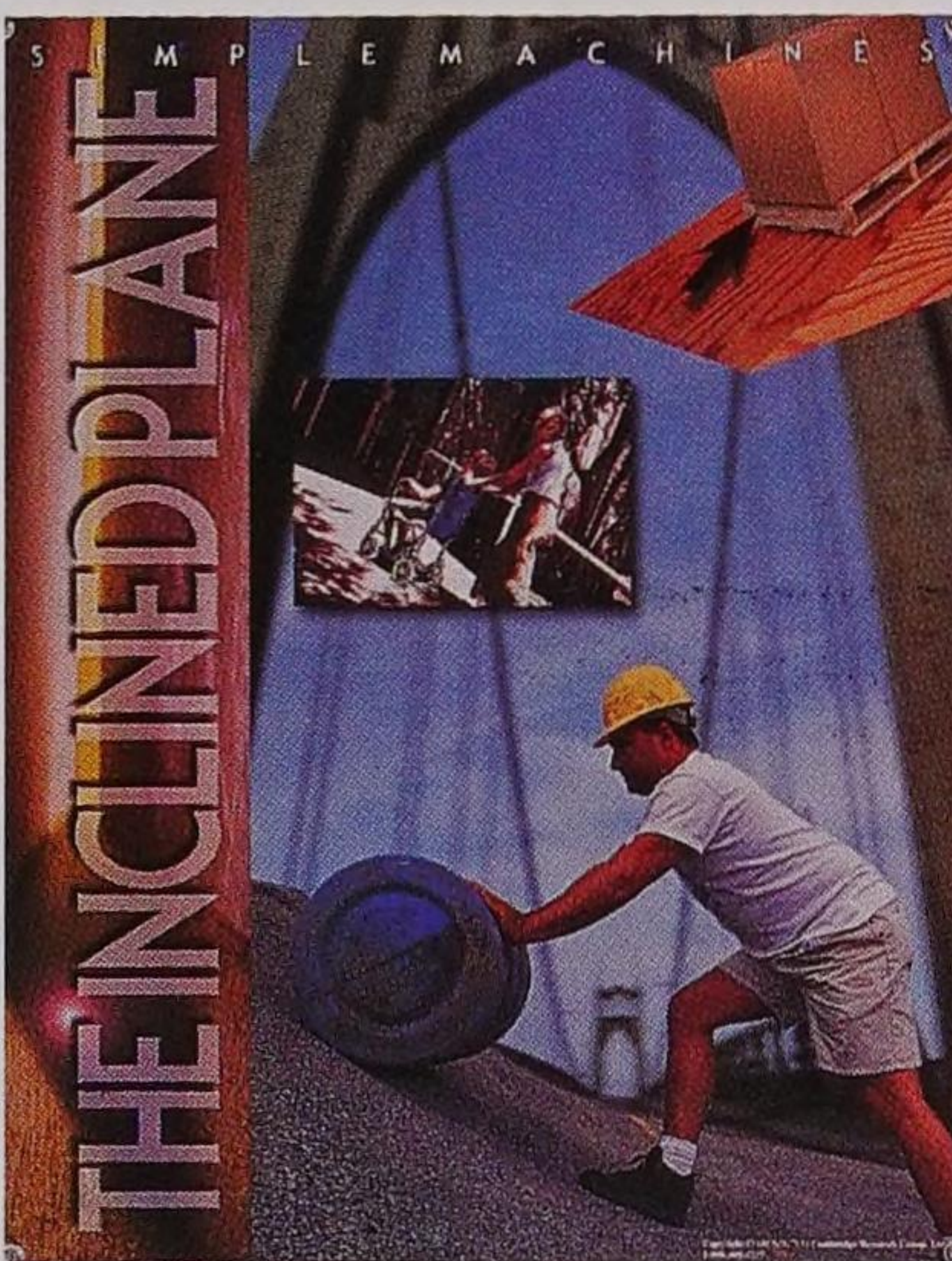
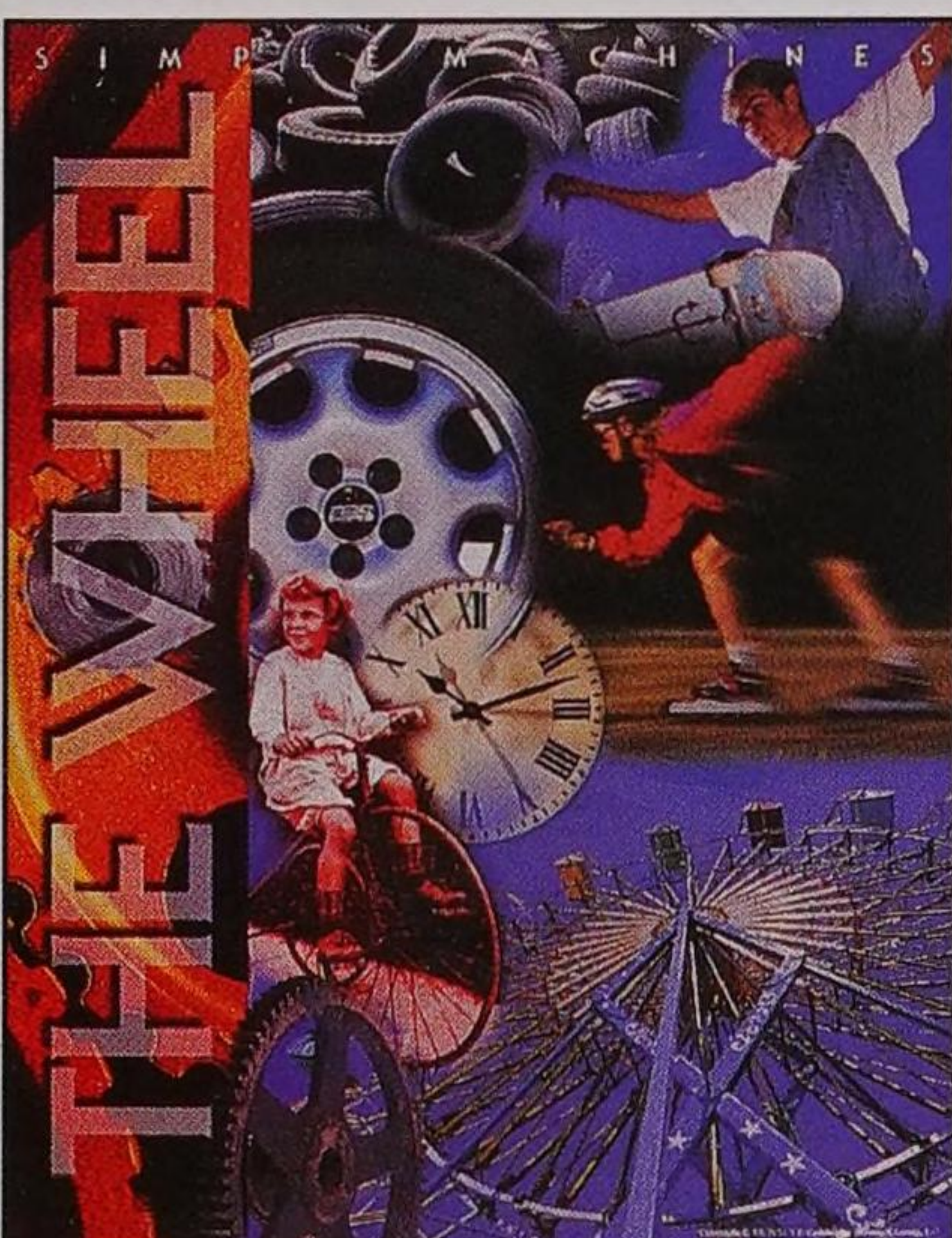
#### THE INCLINED PLANE

**D756051**

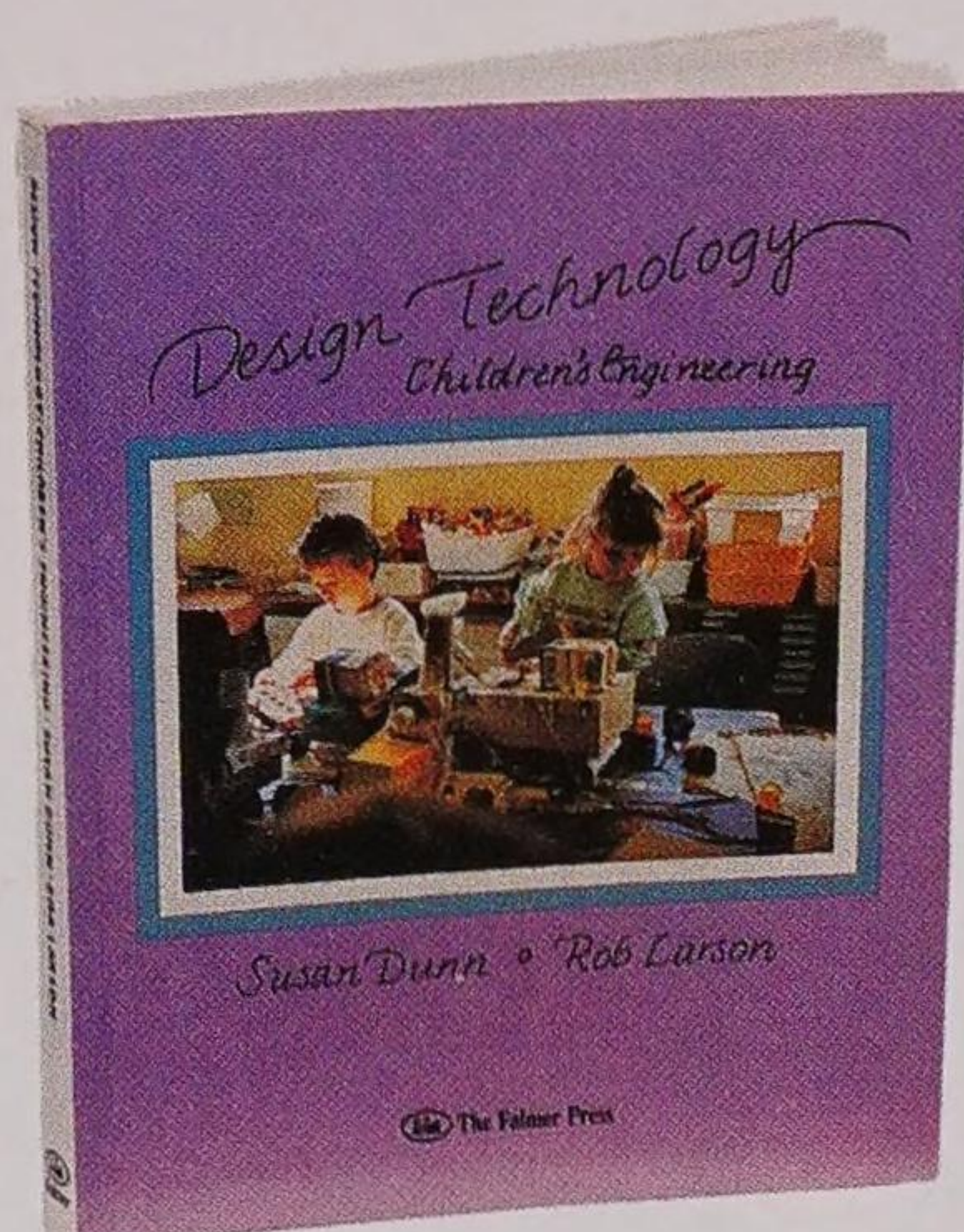
#### THE SCREW

**D756053**

**\$5.95 each**



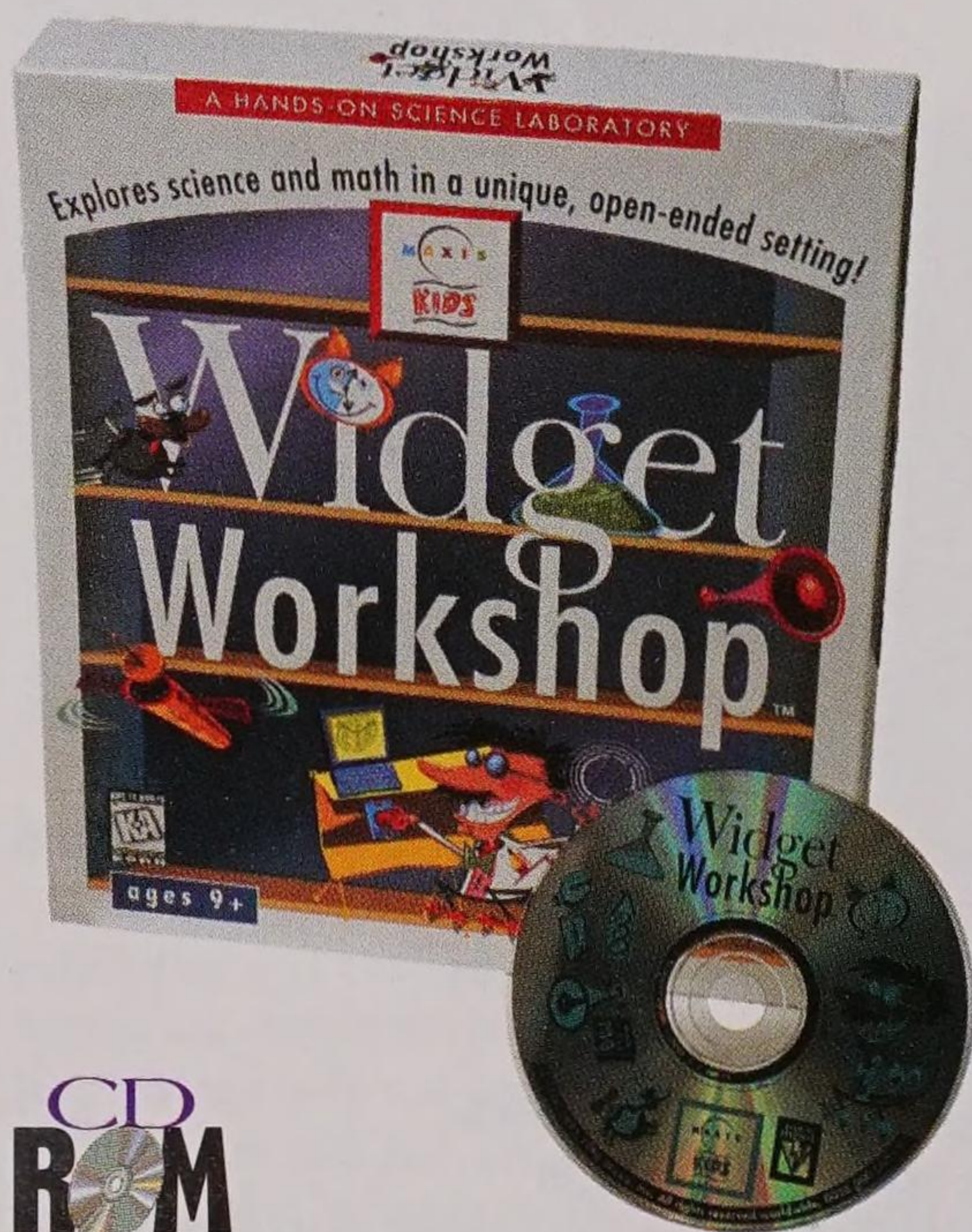


**New****DESIGN TECHNOLOGY:  
CHILDREN'S ENGINEERING**

This excellent book is meant for teachers who want to learn how to orchestrate the use of design technology in the elementary classroom. Filled with illustrated examples of activities, children's responses, and practical ideas for implementation, it is a treasure trove for the inquiry-based teacher. Paperback, 176 pages.  
Level: Adult

**D990224—\$29.95****PITSco**  
INNOVATIVE EDUCATION.**CHALLENGEPAK**

The challenge is: for what *can't* you use this *Challengepak*? It has mousetraps, wheels, axles, dowel rods, wood strips, rubber bands, balloons, wheels, and much more! Use for a variety of problem-solving challenges. The possibilities are endless. (Egg carton not included.) For a class of 25 students.

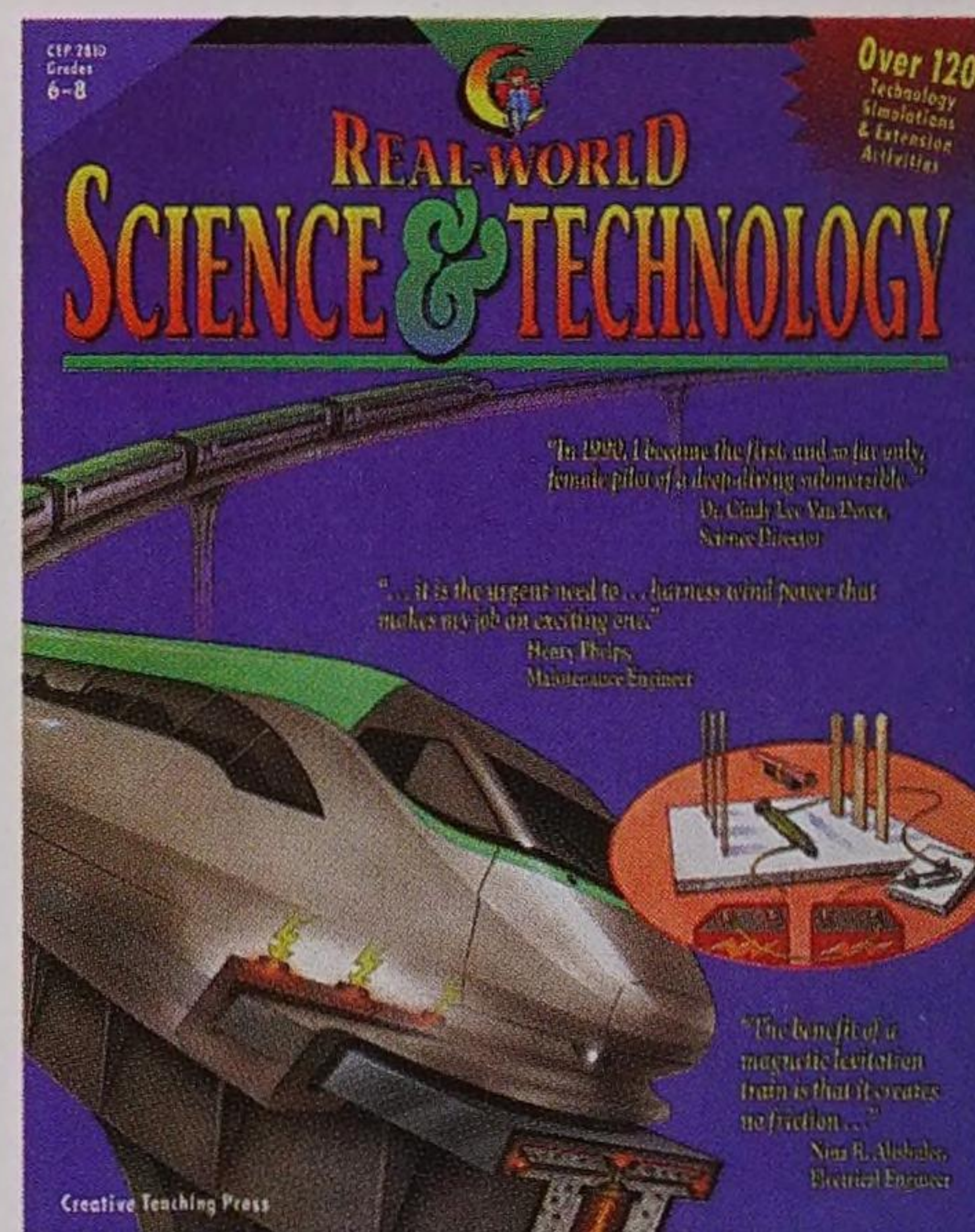
**D751385—\$99****CD  
ROM****WIDGET WORKSHOP CD-ROM**

Don't get bored with science, get mad! Not angry mad – mad scientist mad! *Widget Workshop* is a mad scientist's laboratory, a garage workshop, and an attic full of neat stuff – all in one and on your computer screen!

Level: 8 and up

**D753037 Mac/Win CD-ROM—\$49.95****CD  
ROM****GIZMOS & GADGETS!**

Students try to build the best auto, air, and alternative energy racing vehicles. To get parts for their vehicles, they have to solve puzzles that deal with gears, force, magnetism, electricity, simple machines, and more.

**D754690 Mac/Win CD-ROM—\$89****D754691 Mac 3.5"—\$89****REAL-WORLD SCIENCE &  
TECHNOLOGY**

Sometimes students do not relate classroom subject matter with life and work in the real world. The purpose of this book is to make that connection apparent and to demonstrate to students, through motivating hands-on activities, how their learning might apply to their future careers. Whether you are teaching about careers or applying science curriculum to the real world, this book is an excellent resource. Paperback, 144 pages.

Level: Middle School

**D756056—\$15.95****Order Online!****[www.pitsco-legodacta-store.com](http://www.pitsco-legodacta-store.com)**



# GEARS BY PITSCO

INNOVATIVE EDUCATION

EXCLUSIVE

## Section Supplements

37

Colors may vary on all gears.



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### BEVEL-WORM-RACK GEARS (10 EACH OF 5 PIECES)

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Machines . . . . . 24-25  
LEGO CAD. . . . . 26  
Wheels & Axles/  
Gears . . . . . 28-29  
Levers/Pulleys. . . 30-31  
Primary Simple  
Machines . . . . . 32-33  
Mousetrap  
Vehicles. . . . . 40-41



### PLASTIC GEARS

Gain the advantage with Pitsco's *Plastic Gears*. Mechanical advantage, that is. Use for vehicles, machines, windmills, or any other application you can imagine. Gear hole is 1/8" (3 mm) and will fit on 1/8" axles. The smallest gear has a 1/16" hole that fits the shaft of our mini motors. Contains five spur gears, two bevel gears, a worm gear, and two rack gears.

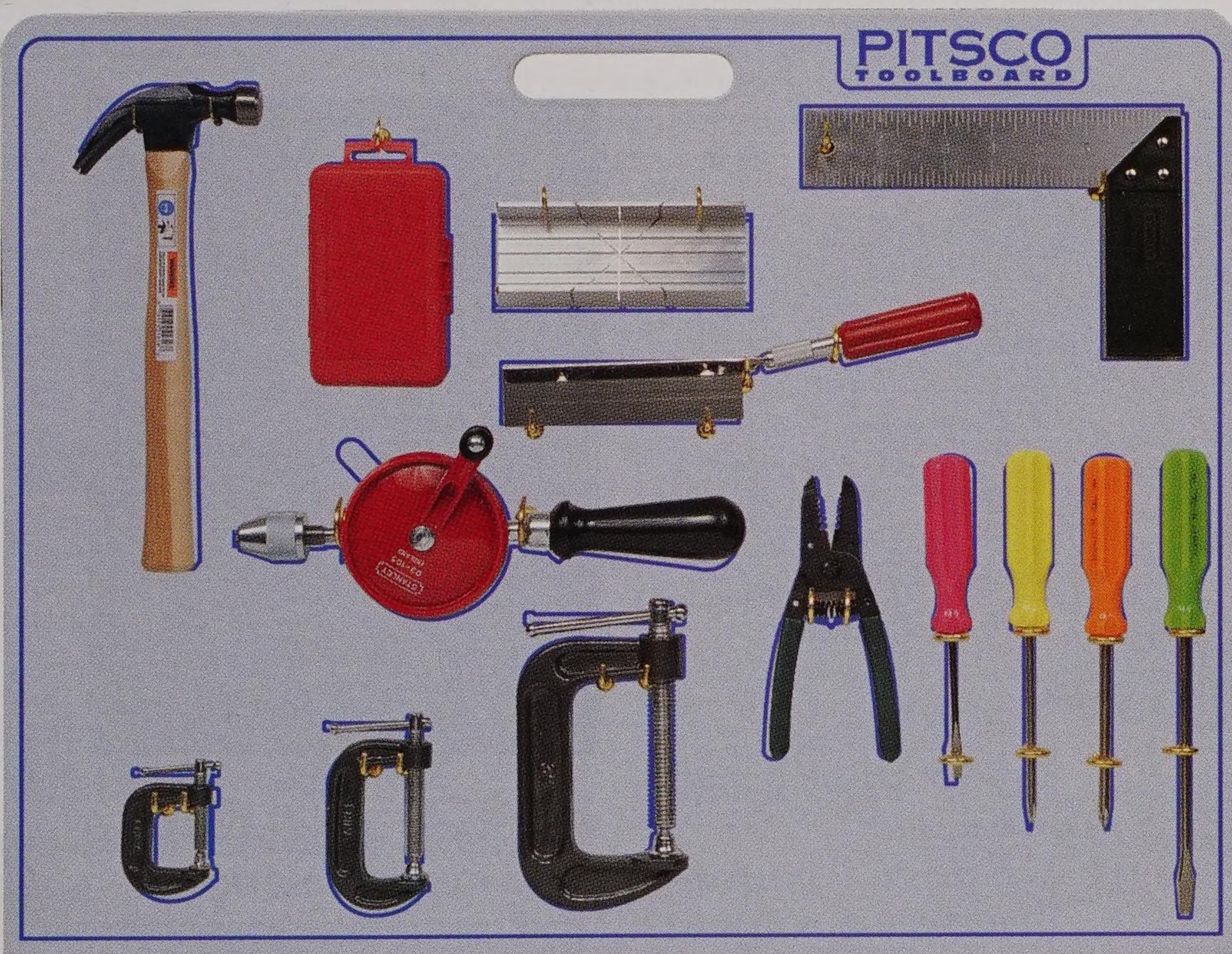
D714841—\$5  
10 for \$45  
100 for \$405

### HOW TO BE AN INVENTOR

Allow your students to put on an inventor's thinking cap to create gadgets, games, tools, toys, and other amazing innovations. In addition to being exposed to what every inventor should know, there are stories about unsung women inventors, successful inventing teams, and dozens of creations including the bicycle, earmuffs, motion pictures, the Frisbee™, Superman, radio, the Slinky®, miniature golf, and much more. Paperback, 80 pages.

Level: Intermediate

D756077—\$10.95



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INNOVATIVE EDUCATION

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### PITSCO TOOL SET

Everyone knows it's important to have the right tool for the job. Right, Al? Well, it's hard to find a job that this tool set doesn't cover. It includes a seven-ounce claw hammer, hand drill and drill bits, screwdrivers (regular and Phillips), three C-clamps, saw and miter box, try square, and a pair of wire strippers/cutters. Includes a self-standing storage board with a carry handle.

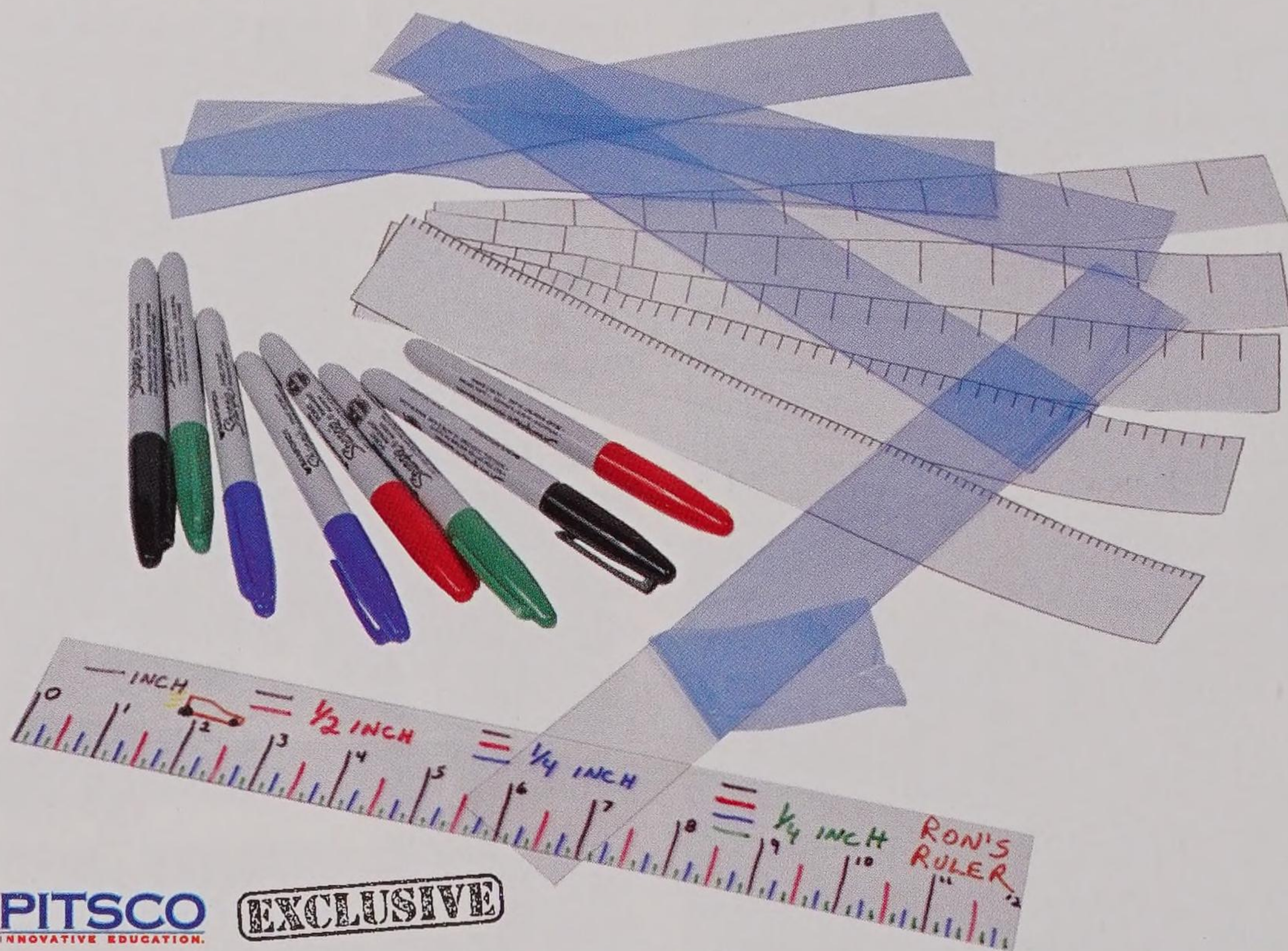
D755051—\$160

PITSCO LEGO dacta  
PARTNERS IN INNOVATIVE EDUCATION




**PITSCO**  
INNOVATIVE EDUCATION
**EXCLUSIVE**
**INVENTION EXPLORE-A-PAK**

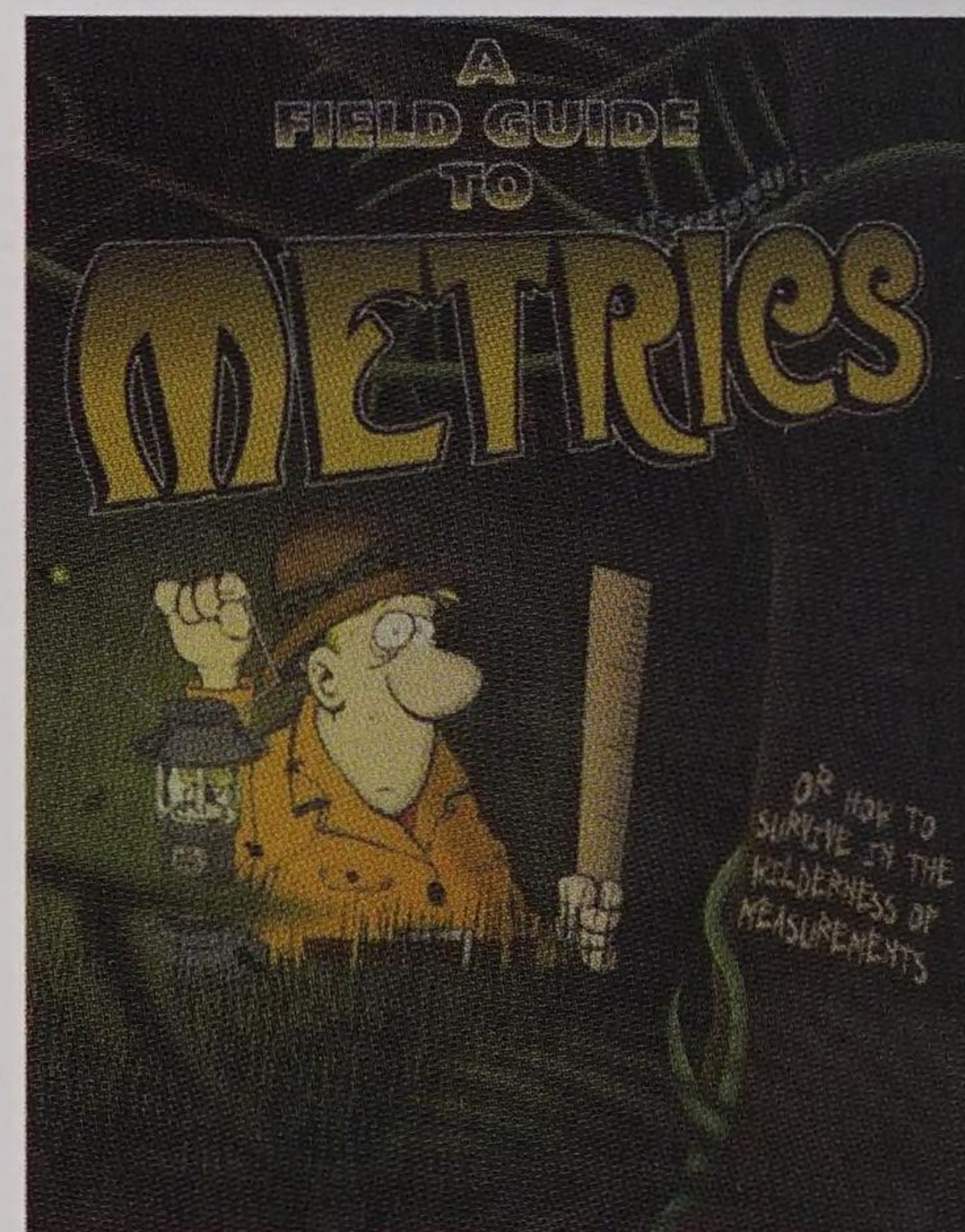
If your students can dream it, they can invent it with the *Invention Explore-A-Pak*! We've included a wide variety of materials – rubber bands, straws, basswood, dowel rods, skill sticks, balloons, wheels, glue, plastic spools, and more. Students must supply the imagination. For a class of 25.

**D990010—\$80**

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INNOVATIVE EDUCATION
**EXCLUSIVE**
**MEASURING WITH FRACTIONS EXPLORE-A-PAK**

Students learn how to measure, and they learn about fractions as they make their own rulers! It's an activity that measures long on educational value and tall on fun. The pack provides everything necessary – permanent markers, plastic material, templates, and student worksheets for a class of 25.

**D990008—\$59**

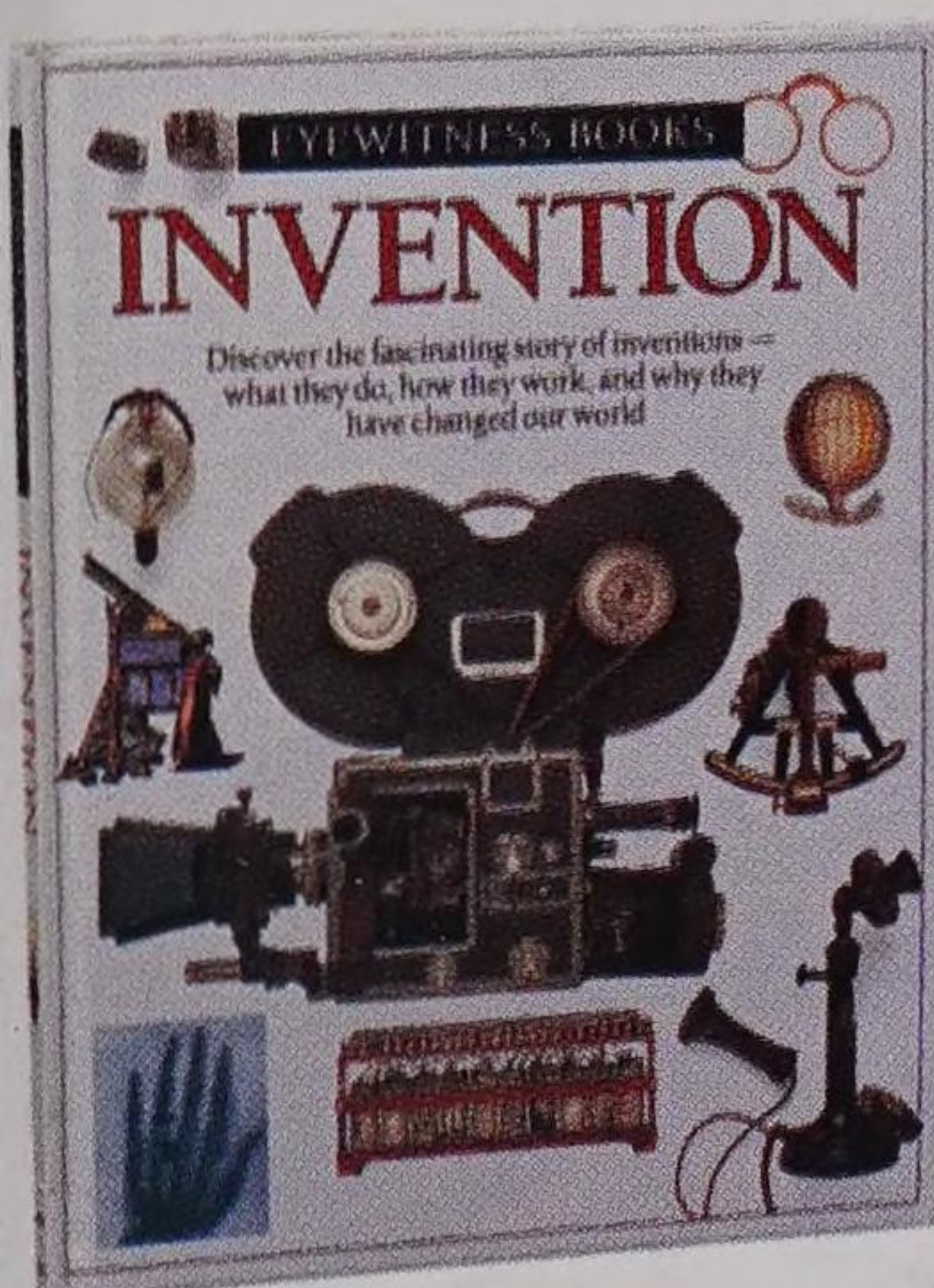
**Call Toll Free!**  
**800-362-4308**


**PITSCO**  
INNOVATIVE EDUCATION
**EXCLUSIVE**
**FIELD GUIDE TO METRICS**

This step-by-step field guide literally walks students through every centimeter of understanding the metric system. Suzanne Arruda, teacher of this subject, has written and tested this book. Her fun style of writing and clever illustrations make this guide unique. Students will enjoy this book and will know all about metrics when they finish. Paperback, 54 pages.  
 Level: Intermediate-Middle School

**D990009—\$5.95**



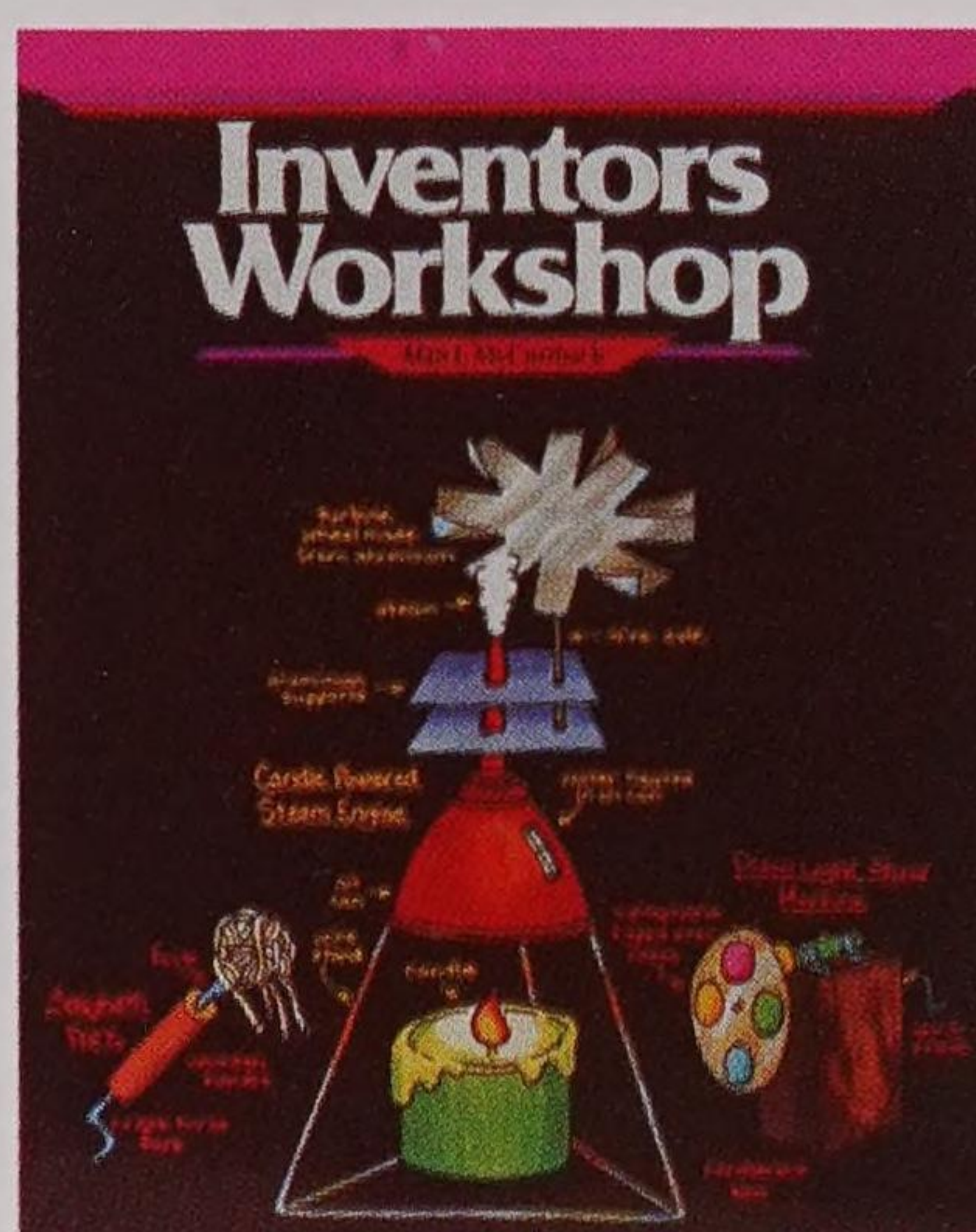


## EYEWITNESS: INVENTION

This book will captivate and motivate students with creative minds! Lionel Bender presents excellent illustrations to challenge the scientists of the future. This volume of photographs and text explores such inventions as the wheel, gears, levers, clocks, telephones, and rocket engines. Hardback, 64 pages.

Level: Intermediate-Middle School

**D752164—\$19**



## INVENTORS WORKSHOP

Reproducible illustrated directions for more than 25 intriguing projects. "Sidetrips" following each project challenge students to apply their inventiveness.

Paperback, 84 pages.

Level: Grades 4-9.

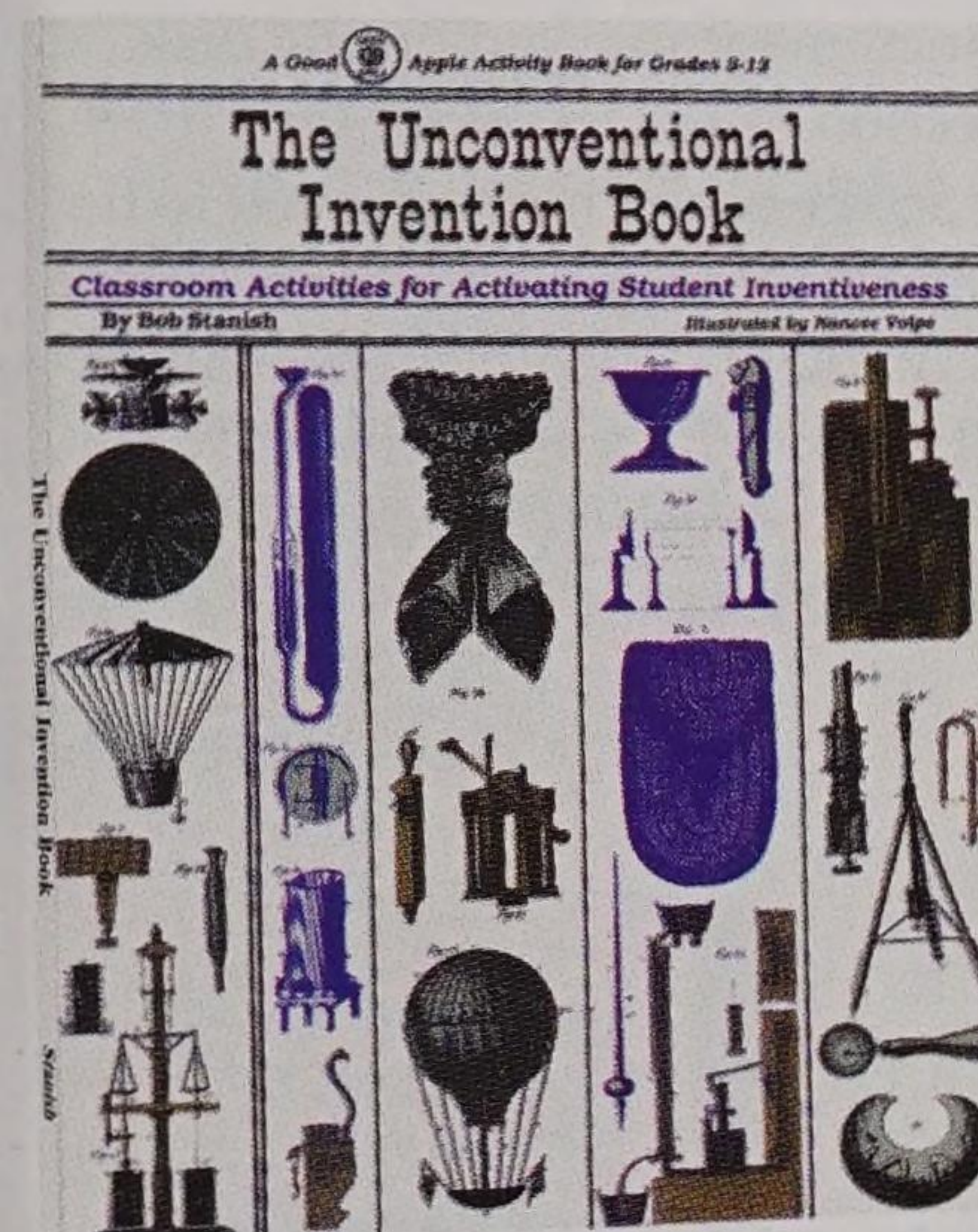
**D751238—\$12.95**

## INVENTIONS!

Rube Goldberg, through his elaborate and ridiculous devices, has become synonymous with any maximum effort to achieve minimal results. This 30-postcard collection (each mailable) is a must for every Goldberg fan. Each card has an illustration and the instructions for completing a mundane task with a new and outrageous method. Paperback, 30 pages.

Level: Intermediate-Adult

**D756120—\$10.95**

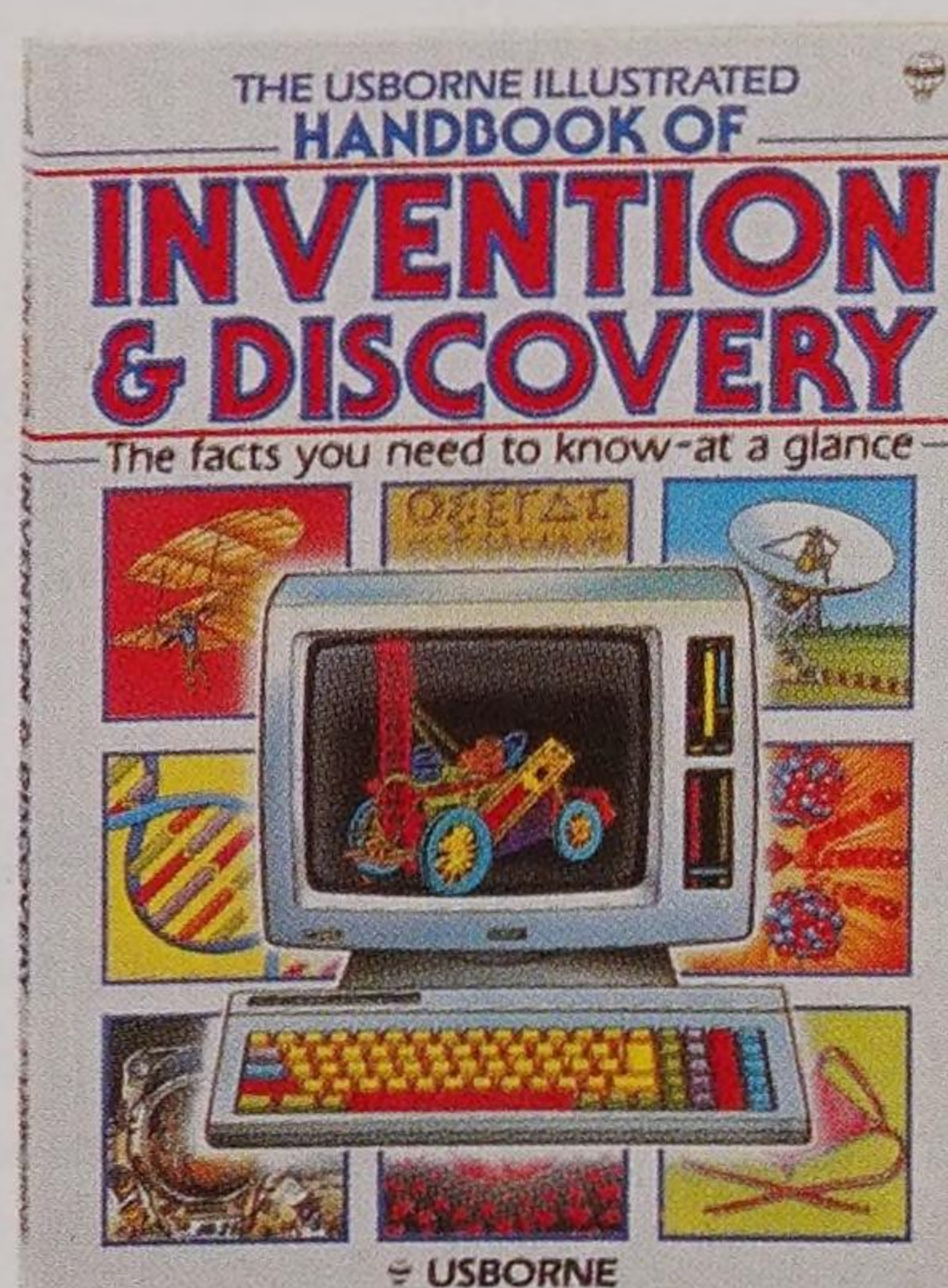


## THE UNCONVENTIONAL INVENTION BOOK

This book provides thorough and easy-to-follow teacher's guides and offers hundreds of suggestions about how to accommodate inventive and creative thinking with classroom projects. This unique collection includes reproducible worksheets, coach reversing, designing, redesigning, finding new uses, improving, and inventing. Paperback, 121 pages.

Level: Grades 3-12.

**D751239—\$12.95**



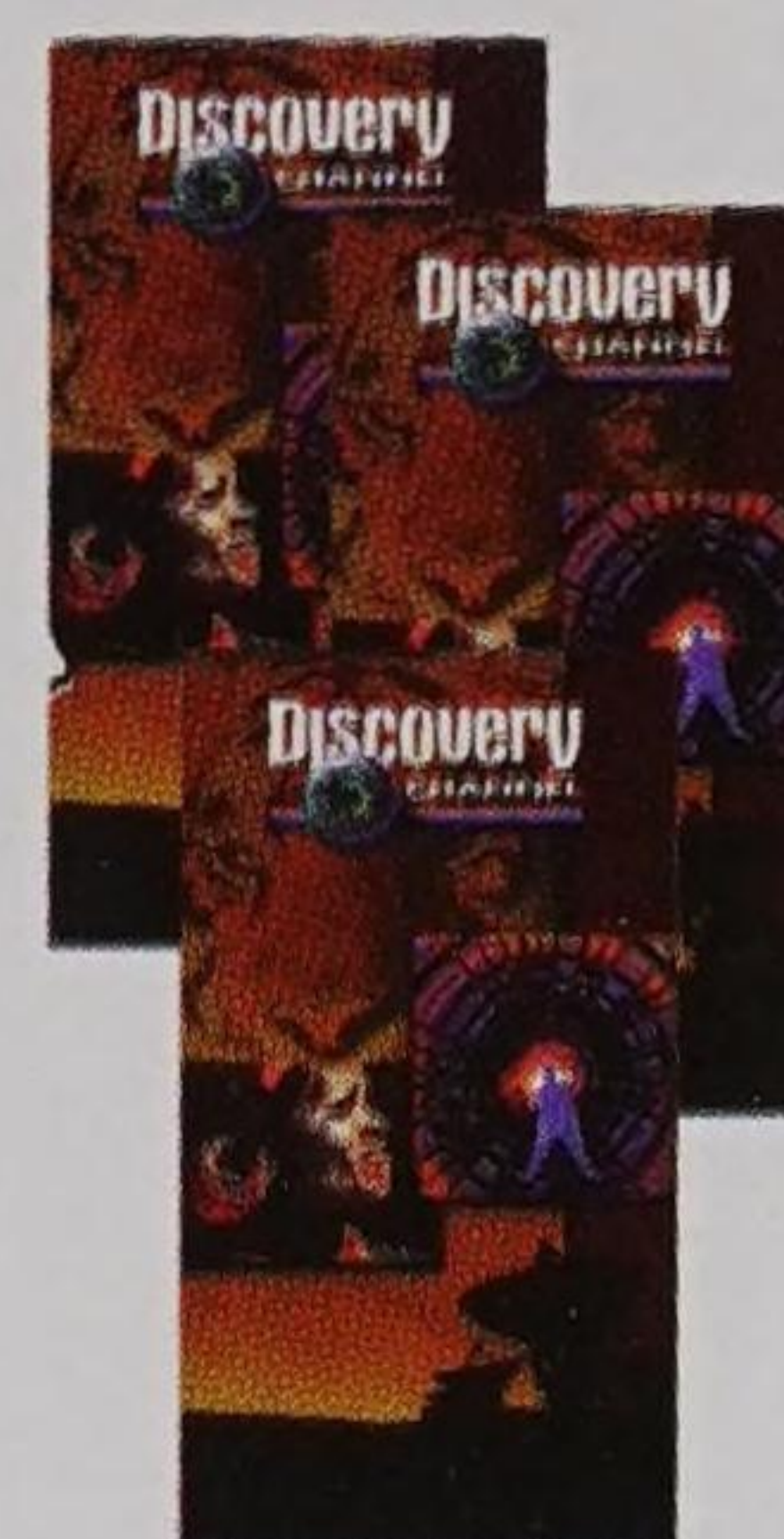
## USBORNE: INVENTION & DISCOVERY

An excellent classroom reference book that presents (at a glance) the facts you need to know. With hundreds of colorful illustrations and concise informative text, *Invention & Discovery* chronicles the history and development of the most important innovations and discoveries of our time.

Paperback, 128 pages.

Level: Middle School-High School

**D751493—\$12.95**

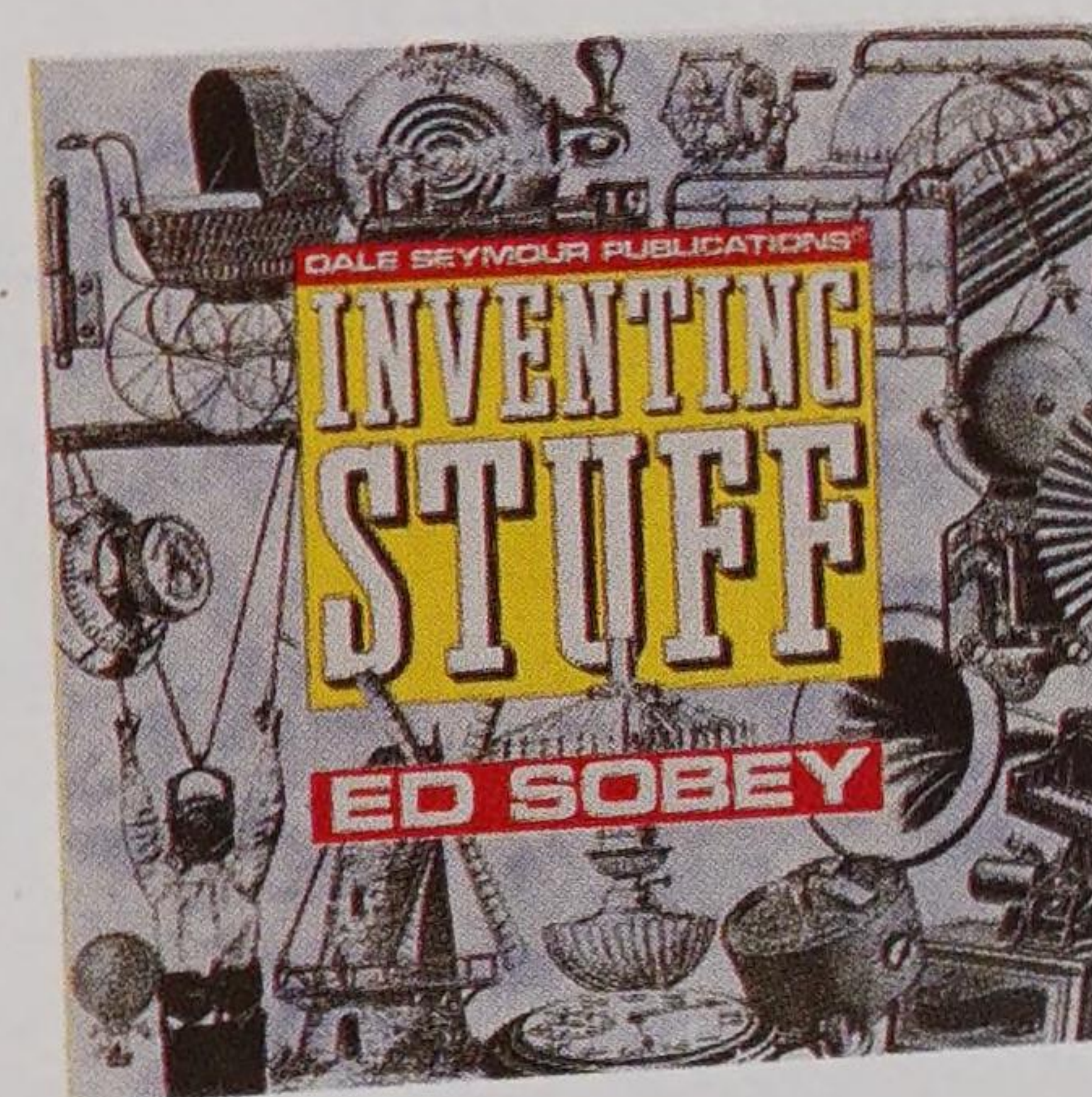


## INVENTION

From simple gadgets to high-tech wonders, *Invention* takes students on a fascinating journey of the inventions that have changed our world. They will look behind the scenes and discover the ingenuity and determination of the great minds behind the inventions. The three-volume video series examines digital music, the solar car, 3-D computer graphics, the electric guitar, Kevlar™ materials, and more. Volumes One and Two are 90 minutes each. Volume Three runs 120 minutes.

Level: Middle School-High School

**D752431 (3-vol. series)—\$79**



## INVENTING STUFF

Get your idea factory rolling with *Inventing Stuff*! This engaging book gives you effective techniques, such as backward inventing and finding new uses for things. It also shows you how to find and solve problems and supplies thought-provoking facts about inventors and inventions.

Paperback, 79 pages.

Level: Middle School-High School

**D754445—\$11.95**



# 40 Mousetrap Vehicles



## INTRODUCTORY MOUSETRAP VEHICLE KIT **PITSCO** INNOVATIVE EDUCATION

Mousetrap vehicles provide an excellent opportunity for students and teachers to use science, mathematics, and technology to explore the process of engineering design. This kit comes with all the materials necessary to construct a mousetrap vehicle. Materials include CD-ROM discs (for wheels), plastic wheels, a mousetrap, balsa wood, string, brass tubing, rubber bands, and ball bearings.

**D754974—\$14.95**

**D718792 13" Lever Arm—\$1.75**

**10 for \$16**

**D755041 Bevel Washers (20)—\$8**

**10 pkgs for \$72**

**D755036 CD Wheel (10)—\$12.50**

**10 pkgs for \$112.50**

**D718794 19" Lever Arm—\$1.95**

**10 for \$18**

**D755037 2-1/2" Wheels (100)—\$39**

**10 pkgs for \$351**

## INTRODUCTORY MOUSETRAP VEHICLE CLASS PAK

This pack includes the same type of materials as found in the *Mousetrap Vehicle Kit* – CD-ROM discs (for wheels), plastic wheels, a mousetrap, balsa wood, string, brass tubing, rubber bands, and ball bearings – but there's enough to construct 25 vehicles. Includes one copy of student instructions.

**D754975—\$299**



## MOUSETRAPS (VICTOR BRAND)

Use these traps for mousetrap-powered vehicles. 10 per pkg.

**D750168—\$6.95**

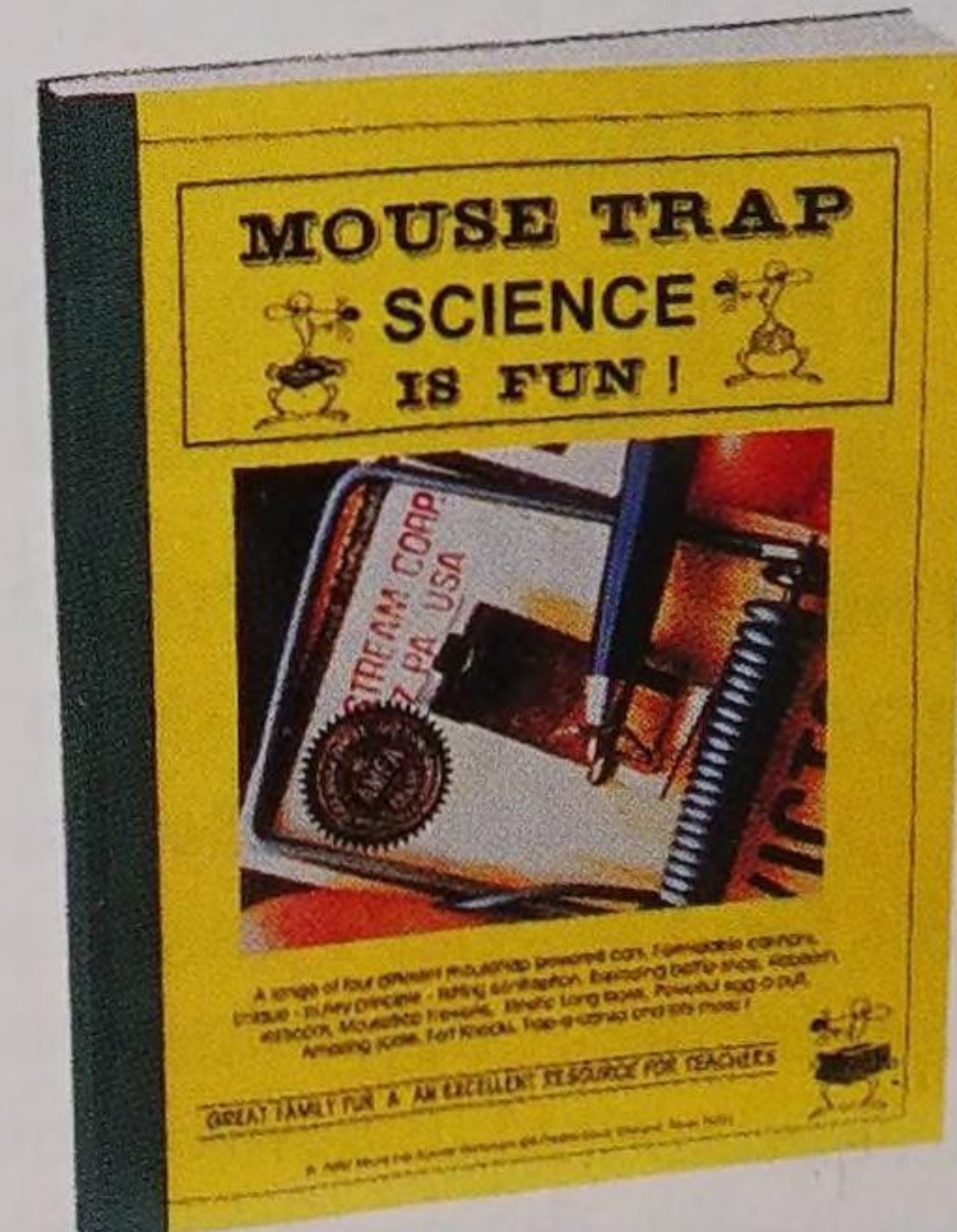
**10 packages for \$63**

## MOUSE TRAP SCIENCE IS FUN! **New**

This fun book of resources and ideas for teachers and students on the hows and whys of mousetrap construction is a culmination of the author's experiments since age 10 in the world of mousetrap pranks/inventions. Black-and-white diagrams and photographs clearly illustrate the design and construction of mousetrap inventions as varied as cars, cannons, long bows, explosive devices, a fishing contraption, and an "egg-a-pult." The text is written simply enough for students and emphasizes safety, how to be a scientist, and the principles of physics. Paperback, 222 pages.

*Level: Intermediate-Adult*

**D756863—\$29.95**

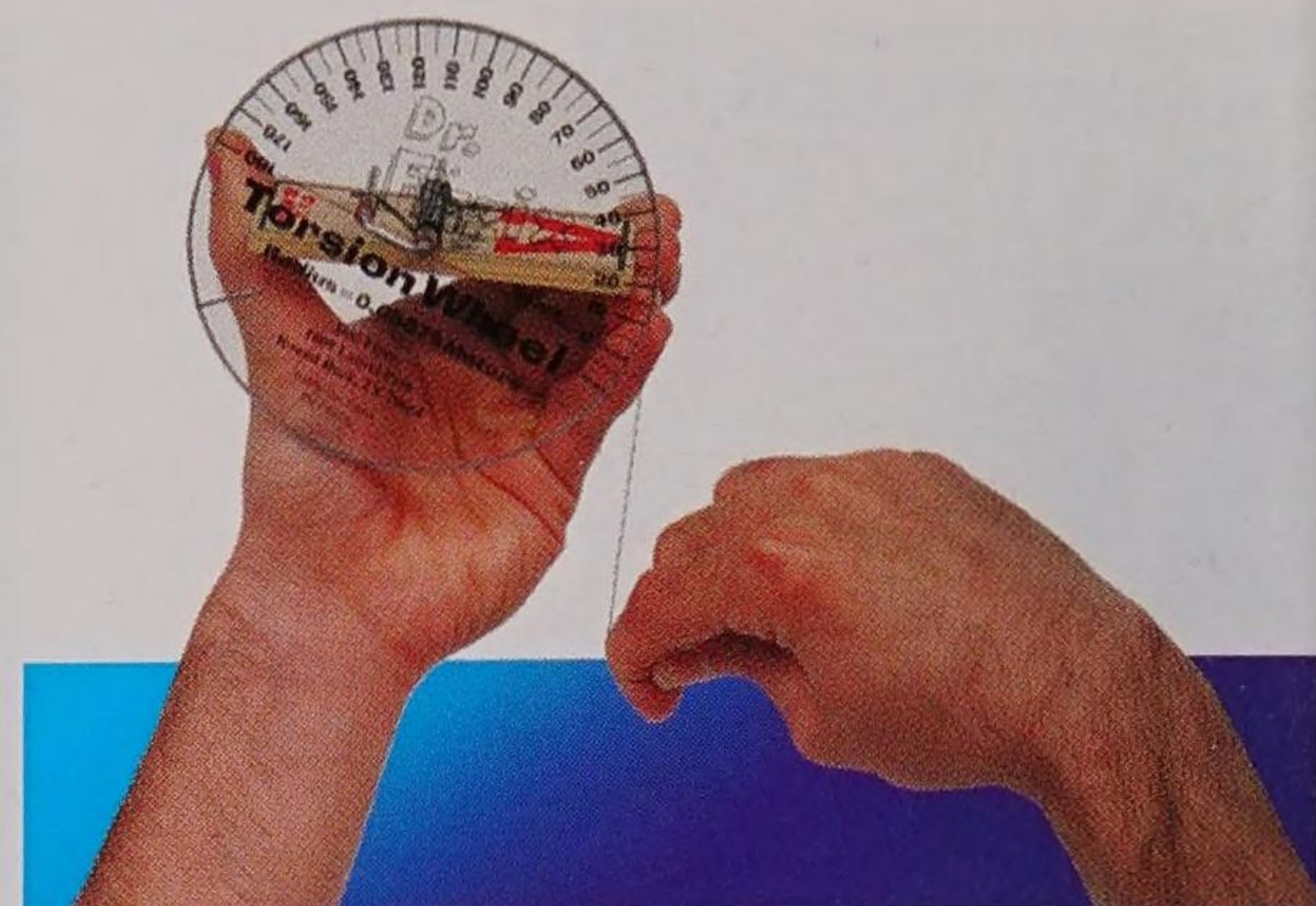


## TUBING CUTTER

This handy tool cuts small-diameter metal tubing. Great for cutting brass axle tubes and bushings.

**D754575—\$5.95 each**

**10 for \$53.50**



**New**

## TORSION WHEEL

Now! For use with your mousetrap cars – a simple way to test your mousetrap's starting energy and spring constant! The *Torsion Wheel* energy tester has been designed for accuracy and simplicity. A string attached at the bottom of a disk and fitted into a groove along the top is pulled downward with a force probe or a spring scale. The student records the pulling force for every five-degree increment marked on the disk. The direction of the force does not change, so the scale does not need to be zeroed at different positions. The *Torsion Wheel* is made of durable, high-quality plastic. Lab activities are included.

*Level: Middle School-High School*

**D756632—\$21.95**

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**888-534-6784**





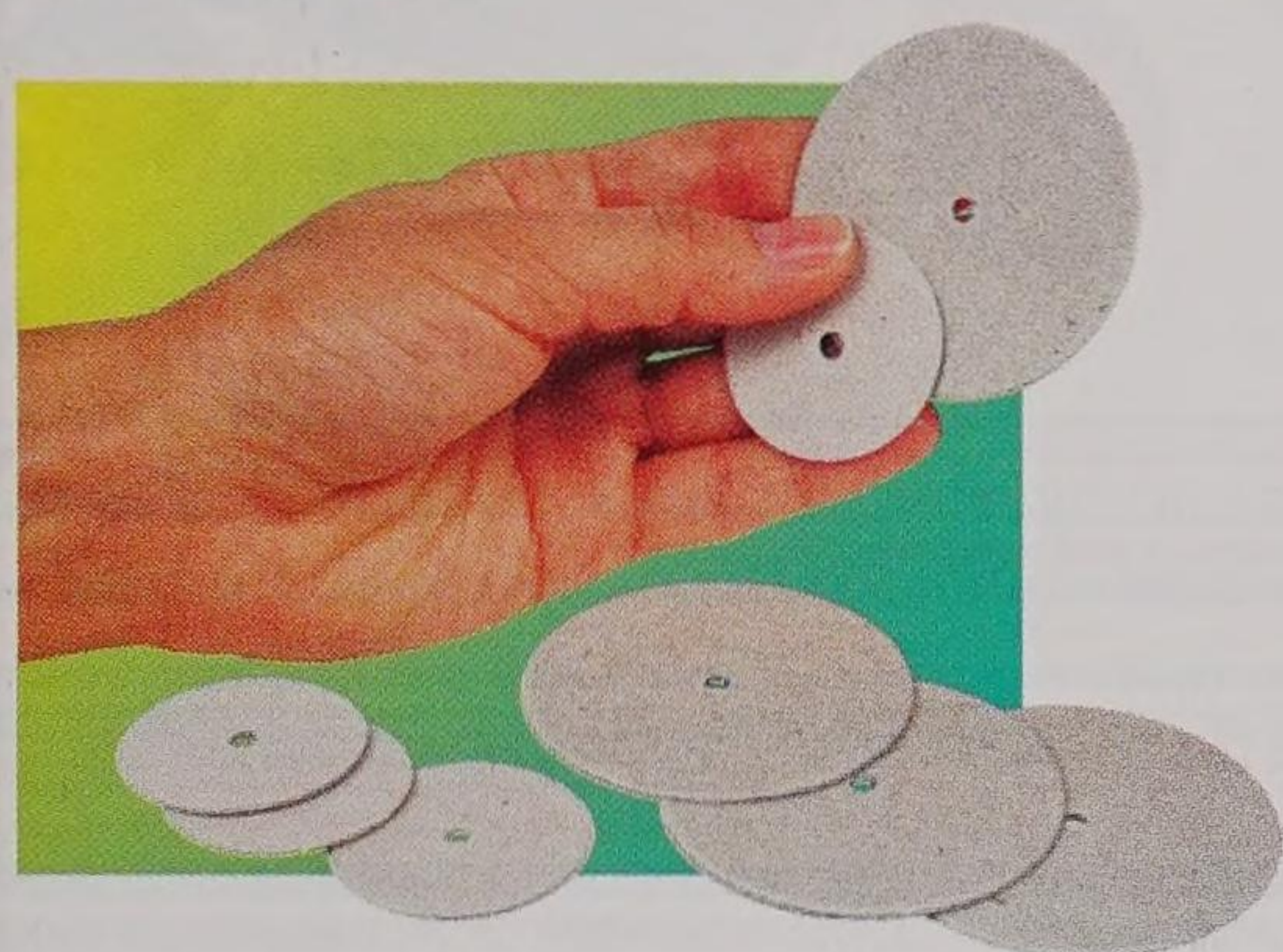


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INNOVATIVE EDUCATION

## MOUSETRAP VEHICLE TEACHER DEMO KIT

This kit is designed for the teacher to experiment with different variables after making a basic mousetrap vehicle. The kit includes the same types of basic materials as found in the introductory kit, plus other materials to allow exploration of different options for developing mechanical advantage. The demo kit includes CD-ROM discs, plastic wheels (two sizes), mousetraps, different length lever arms, spider wire, string, brass tubing, washers, steel axles, delrin axles, glue, balsa wood, rubber bands, and a copy of *Mouse Trap Cars: The Secrets to Success, Teacher's Edition*.

**D754973—\$65**



## CARD WHEELS

These wheels are great for various vehicles, including mousetrap cars and paper cars. Made of sturdy card-stock material, they feature low rolling resistance. Pack includes 1,008 wheels, 504 each of 1-1/2" and 2-1/2" diameters with inner diameter of 3/16".

**D755035—\$25**



**EXCLUSIVE**

## MOUSETRAP T-SHIRTS

Mousetrap-vehicle engineers, or "mouseineers," can proudly wear this colorful shirt that shows everyone what drives them. T-shirts are made from 100% cotton and are available in large and extra-large sizes. Say cheese!

**D754982 Large—\$14.95**

**D754983 X-Large—\$14.95**

## MOUSE TRAP CARS: THE SECRETS TO SUCCESS, STUDENT EDITION

If students are doing a mousetrap-vehicle activity, they need this book. It is packed with excellent ideas for building mousetrap cars from start to finish, including making lightweight frames, reducing friction, making wheels, building a speed car, and building a distance car.

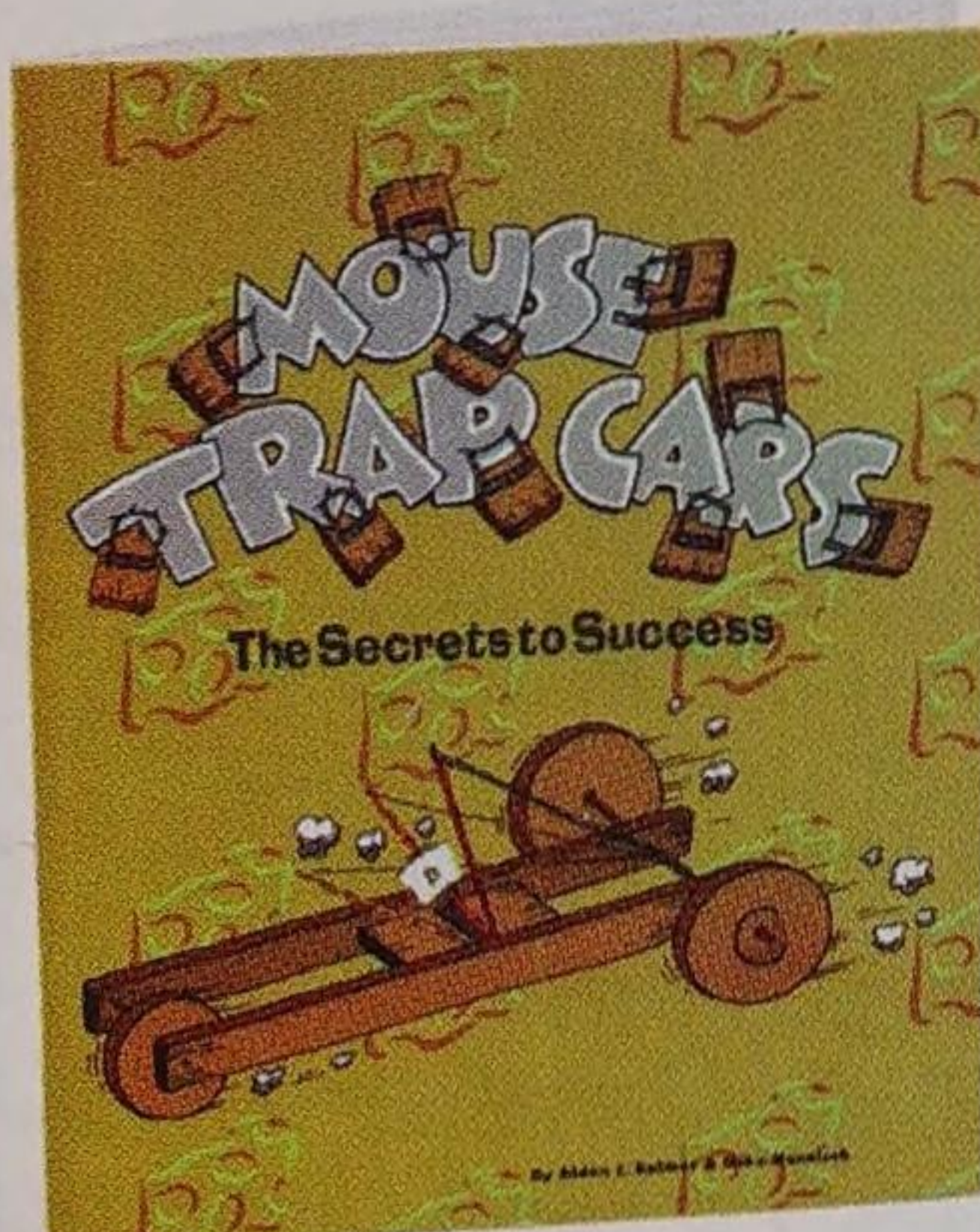
It further enlightens aspiring designers by exploring the physics elements that apply to mousetrap cars – friction, rotational inertia, Newton's Laws of Motion, energy, mass, torque, and more. The book follows a lighthearted comic book format with oodles of helpful illustrations. Paperback, 61 pages.

Level: Middle School-High School

**D754550 Student Edition—\$14**

The teacher's edition of this book gives you in-depth information on the mousetrap-vehicle activity. Lots of formulas and classroom tips!

**D754979 Teacher's Edition—\$18**



## Ideal Classroom Setup for 24 students

- 1 - Mousetrap Vehicle Teacher Demo Kit\* (D754973)
- 1 - Introductory Mousetrap Vehicle Class Pak\* (D754975)
- 1 - Mouse Trap Cars: The Secret to Success, Teacher Edition (D754979)
- 24 - Mouse Trap Cars: The Secret to Success, Student Edition (D754550)

**Total: \$718**  
plus shipping

\*Consumables

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**EXCLUSIVE****BALLOON CAR EXPLORE-A-PAK**

Your students will feel inflated after they participate in this fun and challenging balloon car activity. Students build their own balloon-powered vehicles, ranging from the simple (card-stock templates are provided for the vehicle bodies) to the outrageous (students can dream up their own wild designs)!

If desired, the cars can be raced against one another in a classroom showdown. The *Balloon Car Explore-A-Pak* includes a teacher's guide, balloons, axles, wheels, templates, and other needed materials. For a class of 50 students.

**D990011—\$69**
**PITSCO**  
INNOVATIVE EDUCATION.
**EXCLUSIVE****PITSCO FOLD & RACE RAMP**

Fold it up and start racing within minutes!

The *Pitsco Fold & Race Ramp* is designed specifically for the elementary classroom needs.

Economical, easy to store, and fun to use. Use the ramp to test and race *Fold & Roll Cars*, *Balloon Cars*, and other rolling models in your classroom.

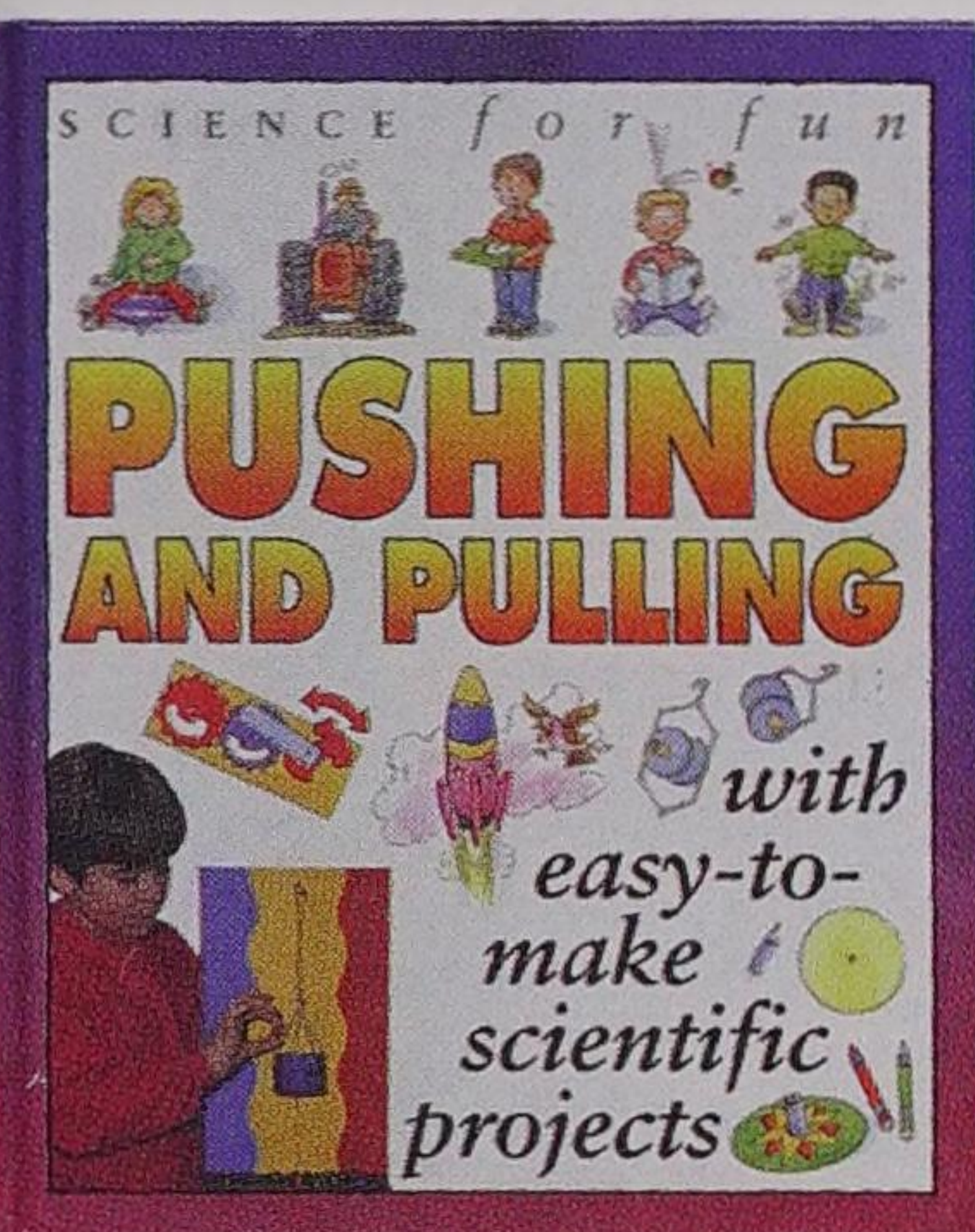
**D990022—\$7.95****USBORNE BOOK OF CUTAWAY CARS**

There is no better way to discover how cars run than to cut away their bodywork and see what is going on inside. This book features beautifully detailed cutaway illustrations and clear text that explains many of the principles behind how cars work. Action-packed photographs bring to life all sorts of cars, from rugged, off-road vehicles to the sleekest sports models. Paperback, 32 pages.

Level: Middle School-High School

**D754876—\$7.95****Order Online!**
[www.pitsco-legodacta-store.com](http://www.pitsco-legodacta-store.com)



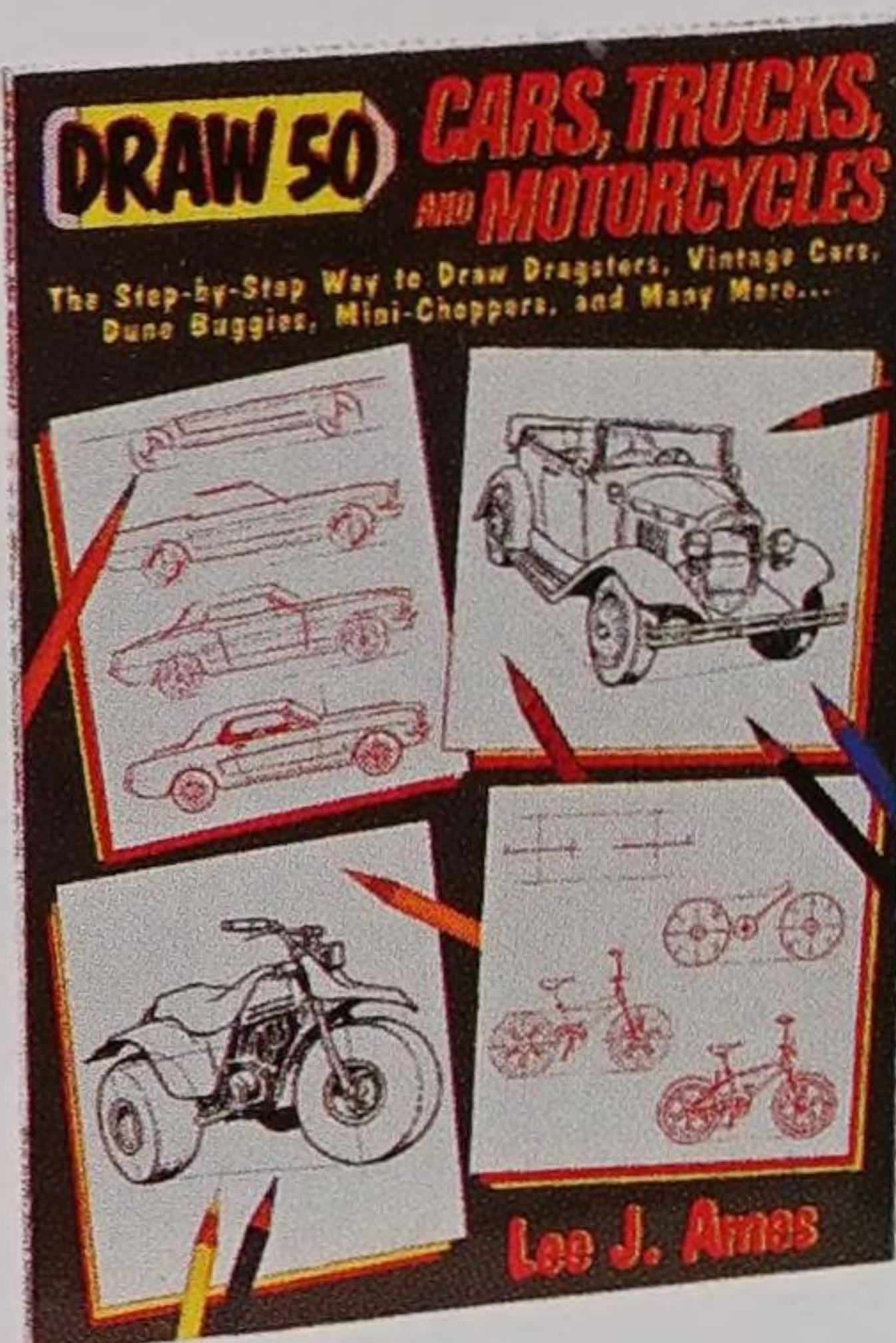


## PUSHING AND PULLING

Have you stopped to think that there are forces that push and pull us whenever we do anything? With a series of exciting hands-on projects, this book explains some of these fascinating forces and shows how they work. The reader is guided in analyzing the results of each experiment and is then offered ideas for further activities which will reinforce his or her understanding of the principle. Hardback, 32 pages.

Level: Early Learning-Intermediate

D756074—\$20.95



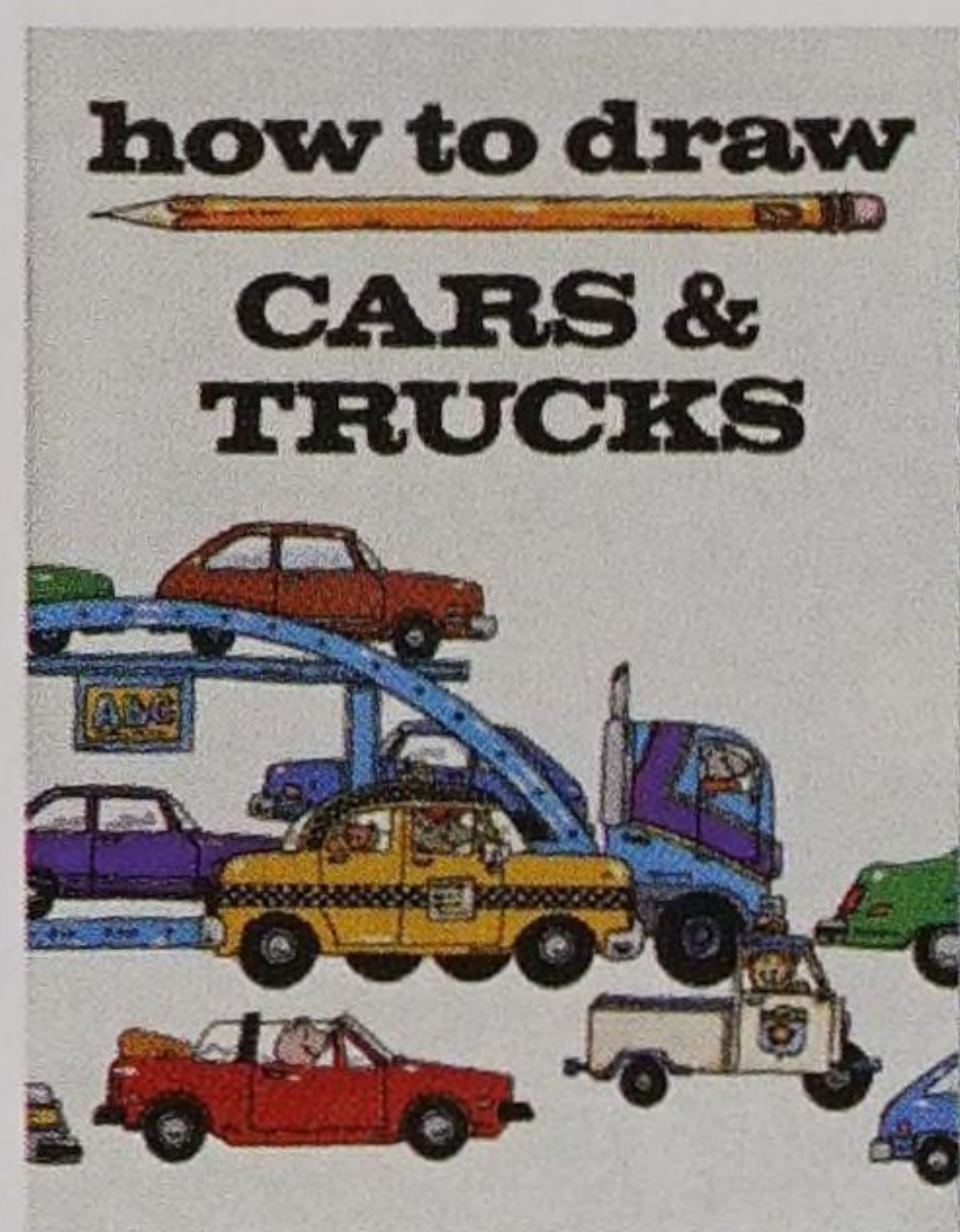
## DRAW 50 CARS, TRUCKS, AND MOTORCYCLES

This fun drawing book uses a step-by-step method to show young artists how to draw the things they want to draw – such as cars, trucks, and motorcycles! A great way to help kids develop, by mimicry, the basic techniques of drawing.

Paperback, 54 pages.

Level: Intermediate-Middle School

D756877—\$8.95



## HOW TO DRAW CARS & TRUCKS

Everyone likes to draw cars and trucks. This wonderful instruction book gets the youngest students on the road to becoming a designer of transportation. Extremely simple instructions and drawings makes this a must for the primary classroom.

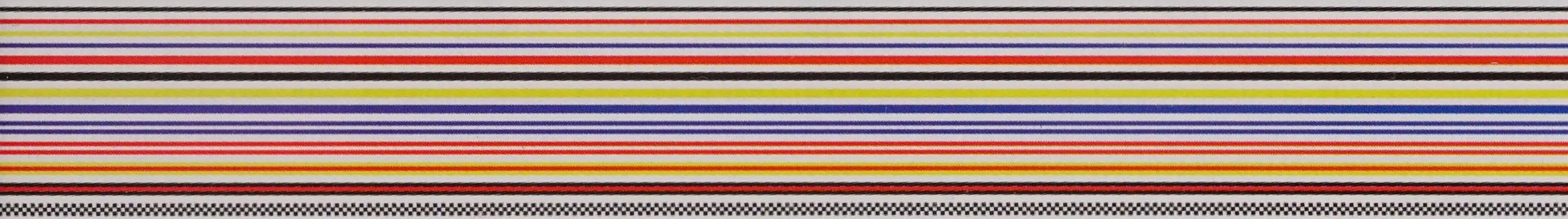
Paperback, 31 pages.

Level: Early Learning

D756127—\$2.95

Motorized Simple Machines . . . . .	24-25
LEGO CAD . . . . .	26
Wheels & Axles/ Gears . . . . .	28-29
Levers/Pulleys . . . . .	30-31
Primary Simple Machines . . . . .	32-33
Mousetrap Vehicles . . . . .	40-41

A



B



C



D



E

**PITSCO**  
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## PITSCO DECALS

These decals will add unique flare to scale models, racers, rockets, model airplanes, and more! Pinstripe decal sheet is 4" x 24" and other decal sheets are 6" x 8".

A. D754540 Pinstripes—\$2.95

B. D754544 Neat Stuff—\$2.95

C. D754543 Flags & Flames—\$2.95

D. D754542 Numerals—\$2.95

E. D754541 Plane Art—\$2.95



Wheels in the racer kit are different than those shown in photo.



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#### FOLD & ROLL RACER KIT

A collection of cool and colorful hot rods that can be cut out and folded into 3-dimensional vehicles! Sixteen sweet, street machines are printed in color on the card-stock pages of the book. Enough wheels and axles are provided to make all 16 models into rolling vehicles. A great elementary transportation activity!

**D754546—\$29.95**



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**EXCLUSIVE**

#### PITSCO FOLD & RACE RAMP

Fold it up and start racing within minutes!

The *PitSCO Fold & Race Ramp* is designed specifically for the elementary classroom needs.

Economical, easy to store, and fun to use. Use the ramp to test and race *Fold & Roll Cars*, *Balloon Cars*, and other rolling models in your classroom.

**D990022—\$7.95**



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#### HARTMAN PAPER RACER EXPLORE-A-PAK

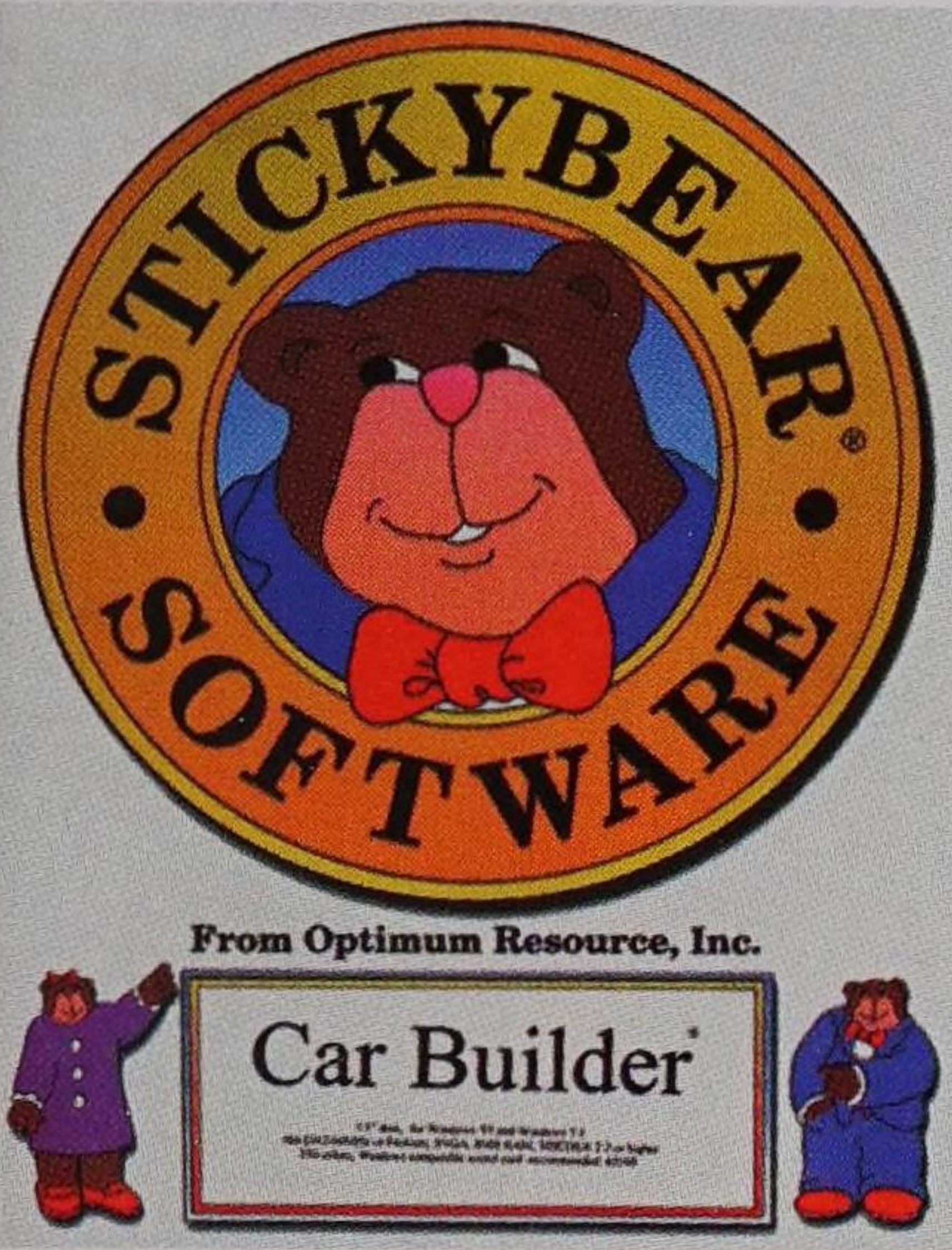
Meet Rhonda Hartman! Rhonda is a top-fuel dragster driver, who competes at the national level.

Your students can build their own version of the Hartman dragster! The dragster's image is printed in color on a sheet of card-stock material. Students simply cut and fold, then attach wheels and axles, and they're ready to roll! Pack includes enough car bodies, wheels, axles, and axle tubes to build 25 racers.

**D754549—\$34.95**

**Call Toll Free!**  
**800-362-4308**

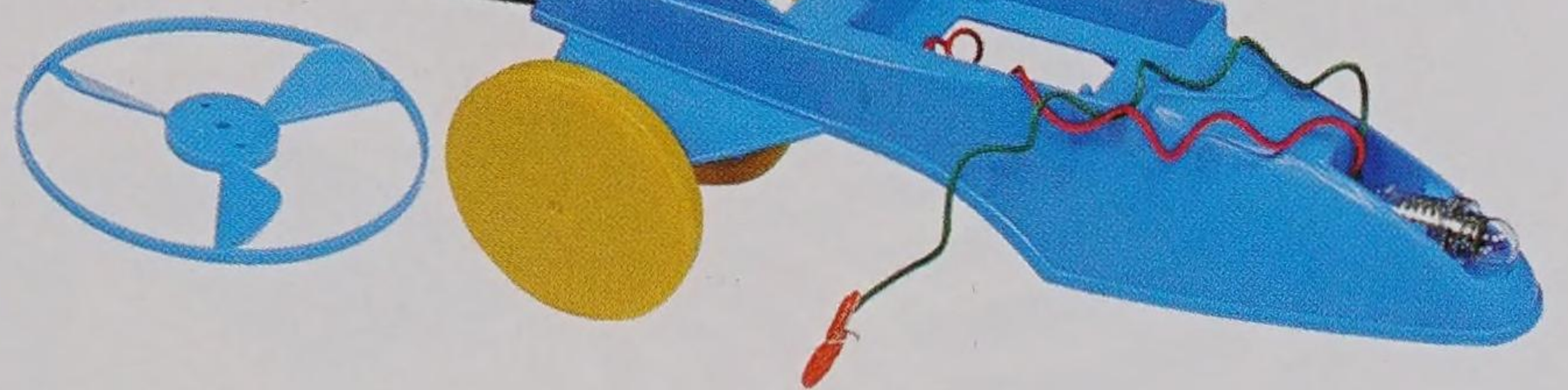




## CAR BUILDER SOFTWARE

Learn firsthand how it feels to be a car designer! Determine the aerodynamics, fuel efficiency, racing capability, engine, chassis, and suspension system. After your car is built, it is run through a full testing procedure that includes a wind tunnel and test track where the test driver will comment on your design. At the end of testing, save your car to disk with all of its testing information for comparison with other designs. Recommended for ages 8 and older. School versions include two copies of the software and a set of 12 lesson plans on incorporating the program into your curriculum. Each pack includes six copies of the software.

	Consumer	School	Lab Packs
Apple 5.25	D751023—\$80	D755027—\$120	D751024—\$195
Apple 3.5	D751232—\$80	D755028—\$120	D751234—\$195
Macintosh	D716138—\$80	D755029—\$120	D755025—\$195
DOS 3.5	D751233—\$80	D755030—\$120	D751236—\$195
Windows	D716139—\$80	D755031—\$120	D755026—\$195
Hybrid CD	D755024—\$80	D755032—\$120	D755033—\$195



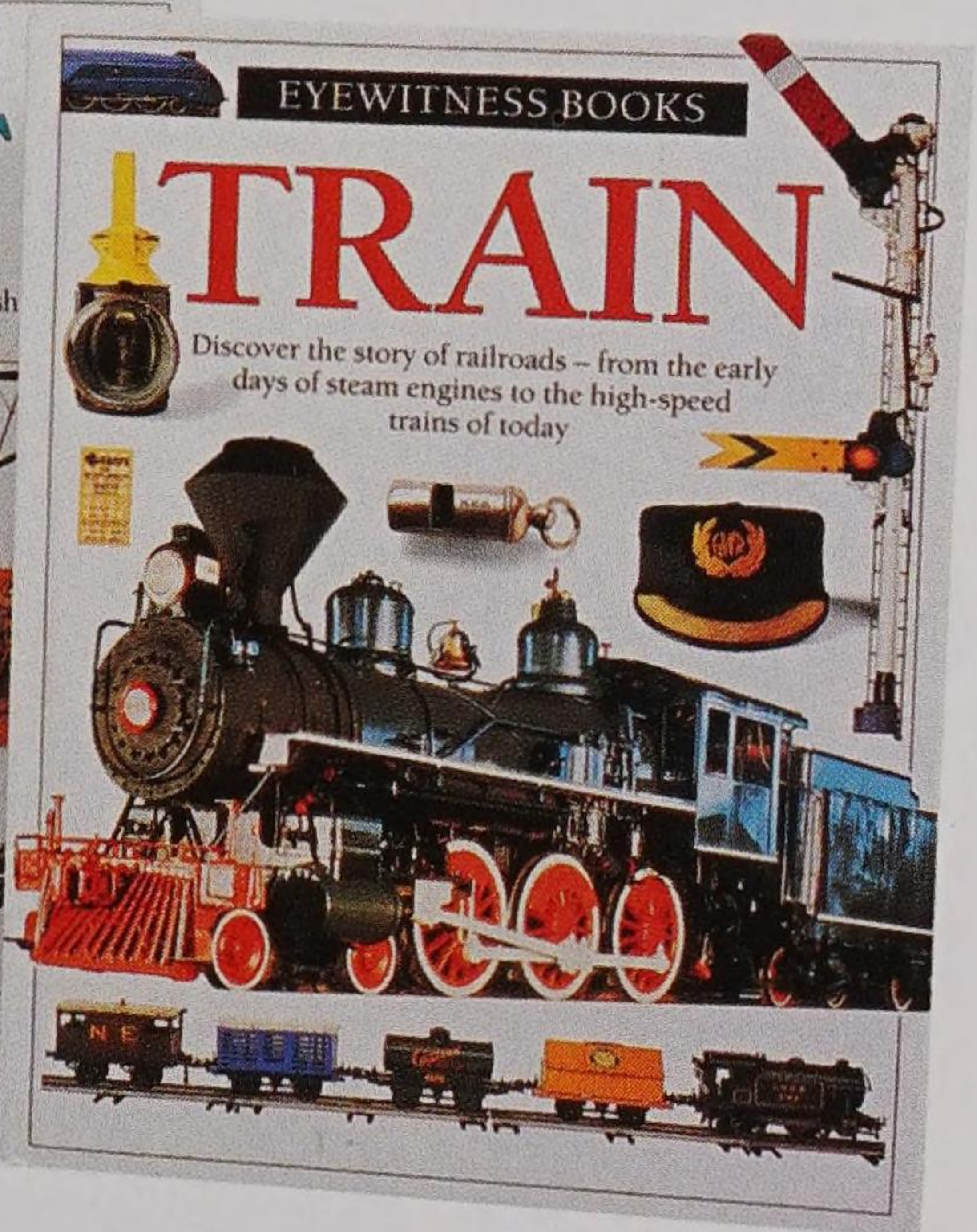
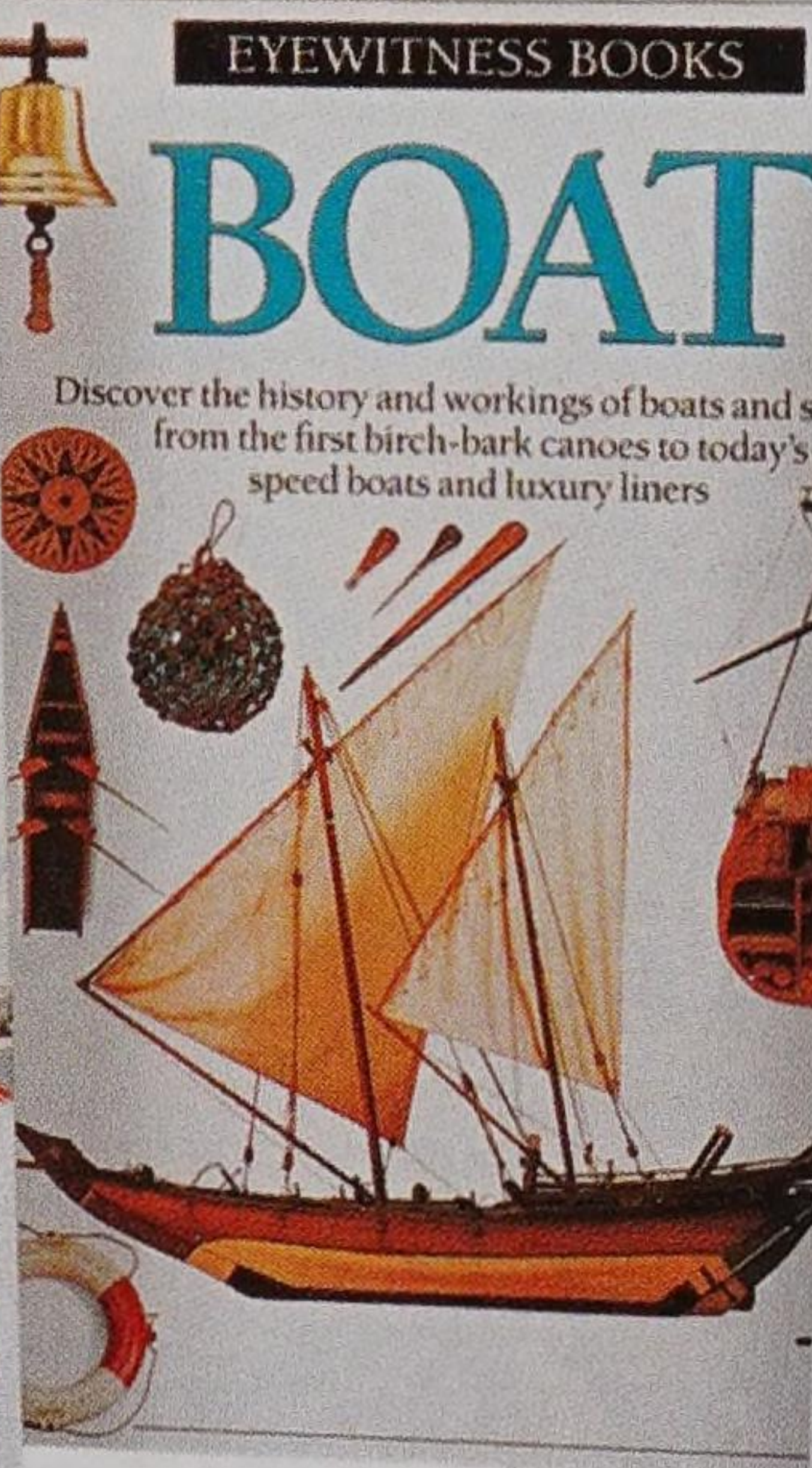
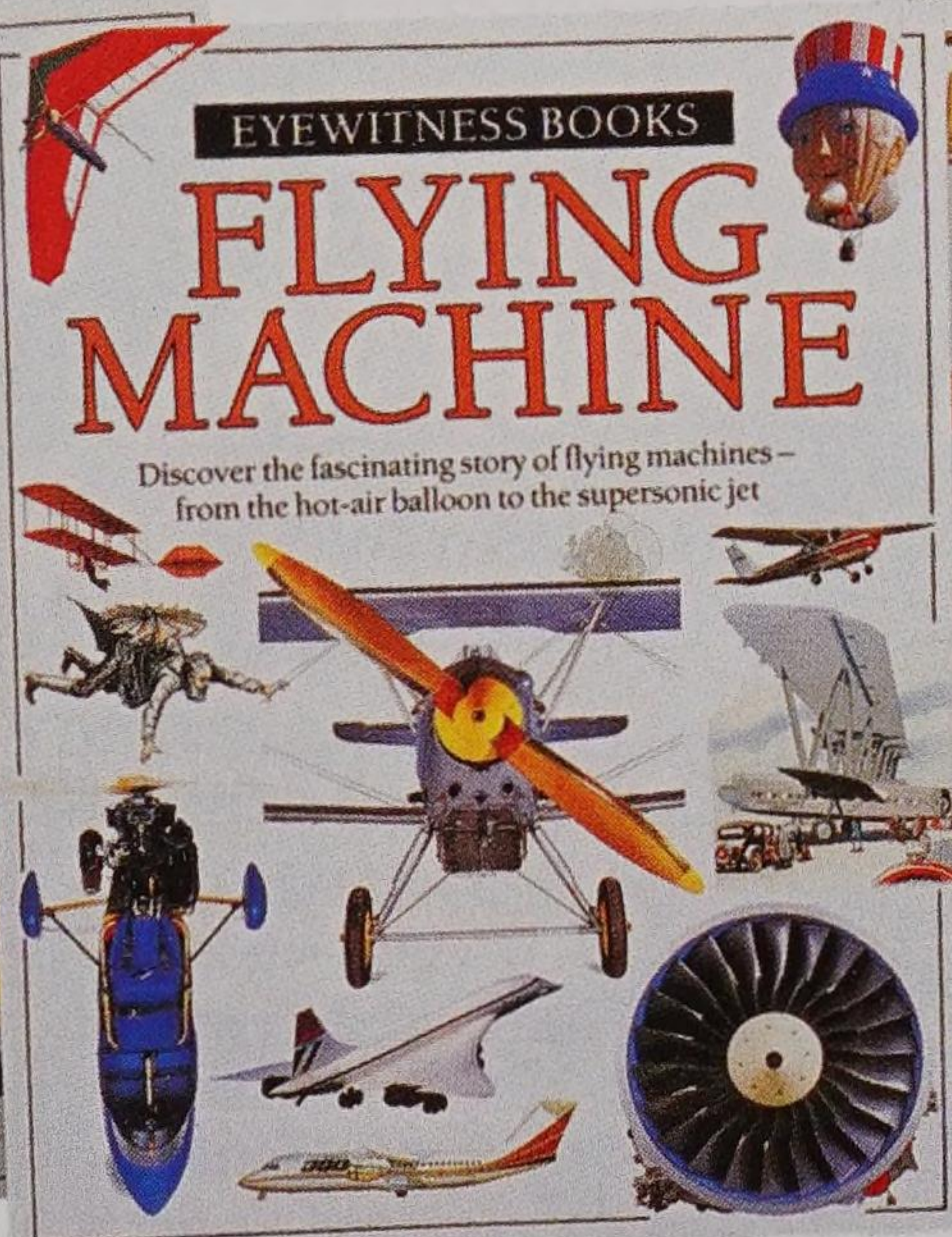
## JET RACER

This fantastic kit has experiments in air propulsion, solar motorization, and direct motor drive applications. Features tough ABS plastic construction and quick, easy assembly. The included propeller can be launched into free flight as well as be used to propel the vehicle.

The *Jet Racer* is an excellent tool for teaching students (ages 9 and up) the principles of electricity, transportation, and solar energy. AA batteries and optional solar battery are sold separately.

**D750941—\$22**

**D751046 AA Batteries (2 pack)—\$2.65**



## EYEWITNESS TRANSPORTATION BOOKS

Eyewitness books are immensely popular for a good reason - they're visually stunning. Packed with beautiful, full-color photographs on a white background, they are uniquely attractive. They're also packed with great information presented in easy-reading text. They add up to a fascinating learning experience for students. Hardback, 63 pages.

Level: Middle School-High School

**D752226 Car—\$19**

**D752287 Flying Machine—\$19**

**D752228 Boat—\$19**

**D752227 Train—\$19**



46

**eLAB****Energy, Work, Power****New EXCLUSIVE****ELAB ENERGY WORK POWER  
STARTER SET #97680**

LEGO Dacta's eLAB sets are designed to give students ages 9 to 16 a solid grounding in fundamental energy principles and sources of renewable energy.

Students can use the eLAB *Energy Work Power Starter Set* to build generators, mechanical capacitors, winches, and model cars. This innovative introduction to the world of potential, kinetic, and electrical energy uses the LEGO Capacitor to show students how energy can be generated, stored, and used.

There are 804 elements, including four capacitors, four motors, four sorting trays, and four sets of building instructions. For four groups of two to four students.

**D979680—\$250**

**FreeFax™ Orders!**  
**888-534-6784**



# eLAB

LEGO SETS FOR SCHOOLS

eLAB

Energy, Work, Power

47

## ELAB IN THE CURRICULUM

Designed to cover basic topics in physical science, as well as bring relevance to the science classroom, eLAB will fit easily into your curriculum. Basic topics covered by eLAB products include:

- What is energy?
- Potential energy
- Movement or kinetic energy
- Converting potential energy into kinetic energy
- Storing energy in an elastic band
- Storing electrical energy
- Energy efficiency
- Distributing energy
- Renewable energy from sun, wind, and water

- eLAB Energy, Work, Power . . . . . 46-47
- eLAB Renewable Energy . . . . . 48-49
- Ray Catcher . . . . . 50-51
- Pneumatics . . . . . 54-55

## STANDARDS

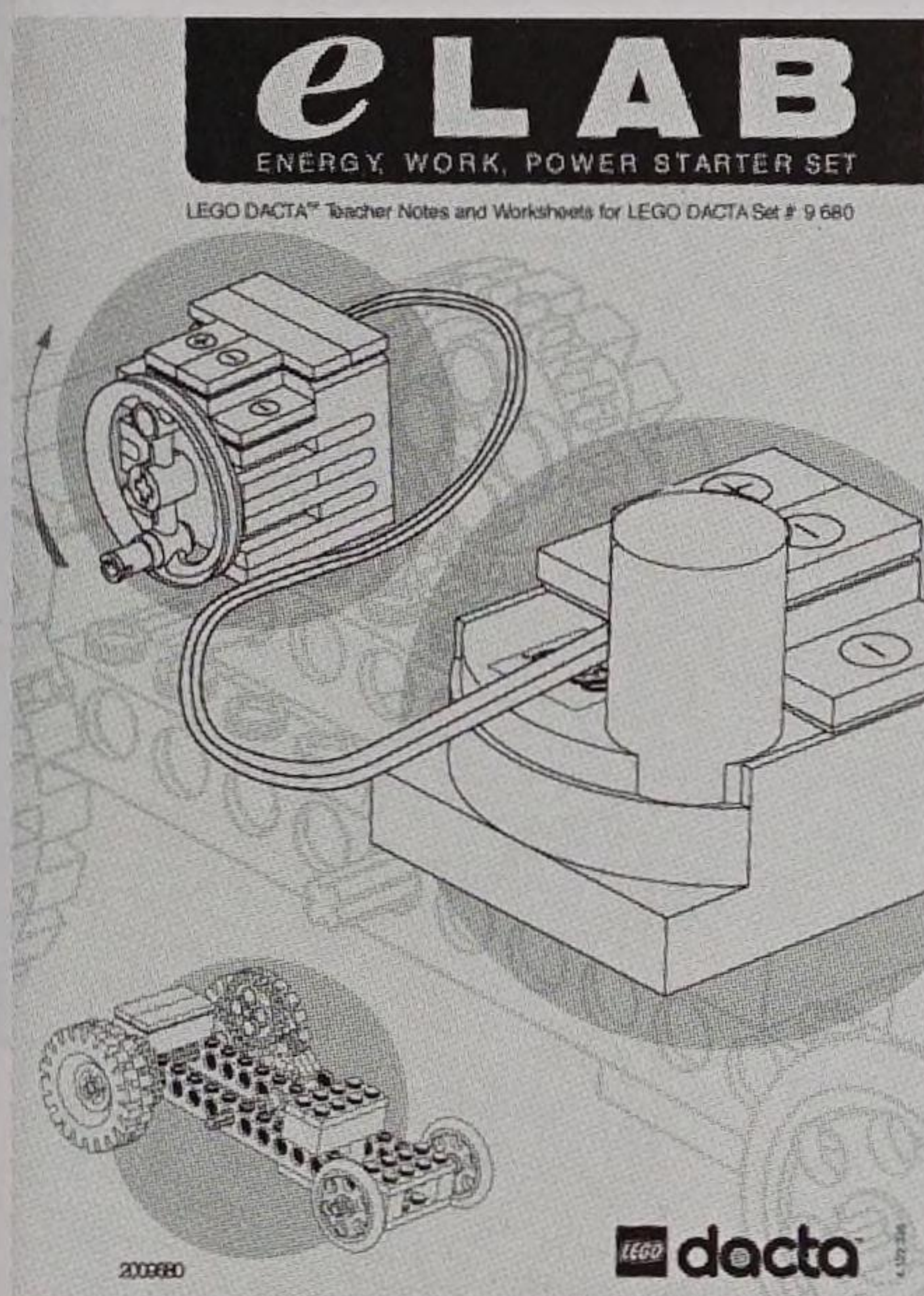
These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site: [www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

## MOTIVATED LEARNING

For many students, energy is a difficult and abstract concept. LEGO Dacta has designed eLAB to make it easier. eLAB pre-sents students with an inspiring and cap-tivating hands-on approach to learning about energy. The worksheets are easy to understand, and the models are easy to use. Through the many activities, stu-dents become acquainted with real-life mechanisms, such as capacitors, wind-mills, and solar cells. eLAB is an exciting and absorbing introduction to specific cross-curricular topics.

## STRUCTURED TEACHING

Teachers can quickly get a whole class working with eLAB. Cost-efficient and easy to implement, eLAB provides teachers with a structured teaching plan for guiding students step-by-step through the fundamental principles of energy. A minimum of preparation is sufficient for teachers to devote maximum classroom time to experimenting, measuring, and learning.



## ELAB ACTIVITY PACKS

The eLAB Activity Packs provide a logical step-by-step guide to energy projects and activities.

The packs are divided into units that establish learning objectives, suggest topics for discussion, and supply a useful framework for individual lessons, thus reducing preparation time to a minimum.

A reproducible series of worksheets are included. The motivating assign-ments encourage students to conduct experiments and increase their knowledge and skills at their own pace. At the end of each worksheet, students are asked to summarize what they have learned, providing the teacher a simple means of monitoring their progress.



**New** **EXCLUSIVE**

## ACTIVITY PACK FOR ELAB ENERGY, WORK, POWER STARTER SET #909680

A 62-page black-and-white activity pack presents learning objectives, topics for discussion, and worksheets covering basic principles of energy.

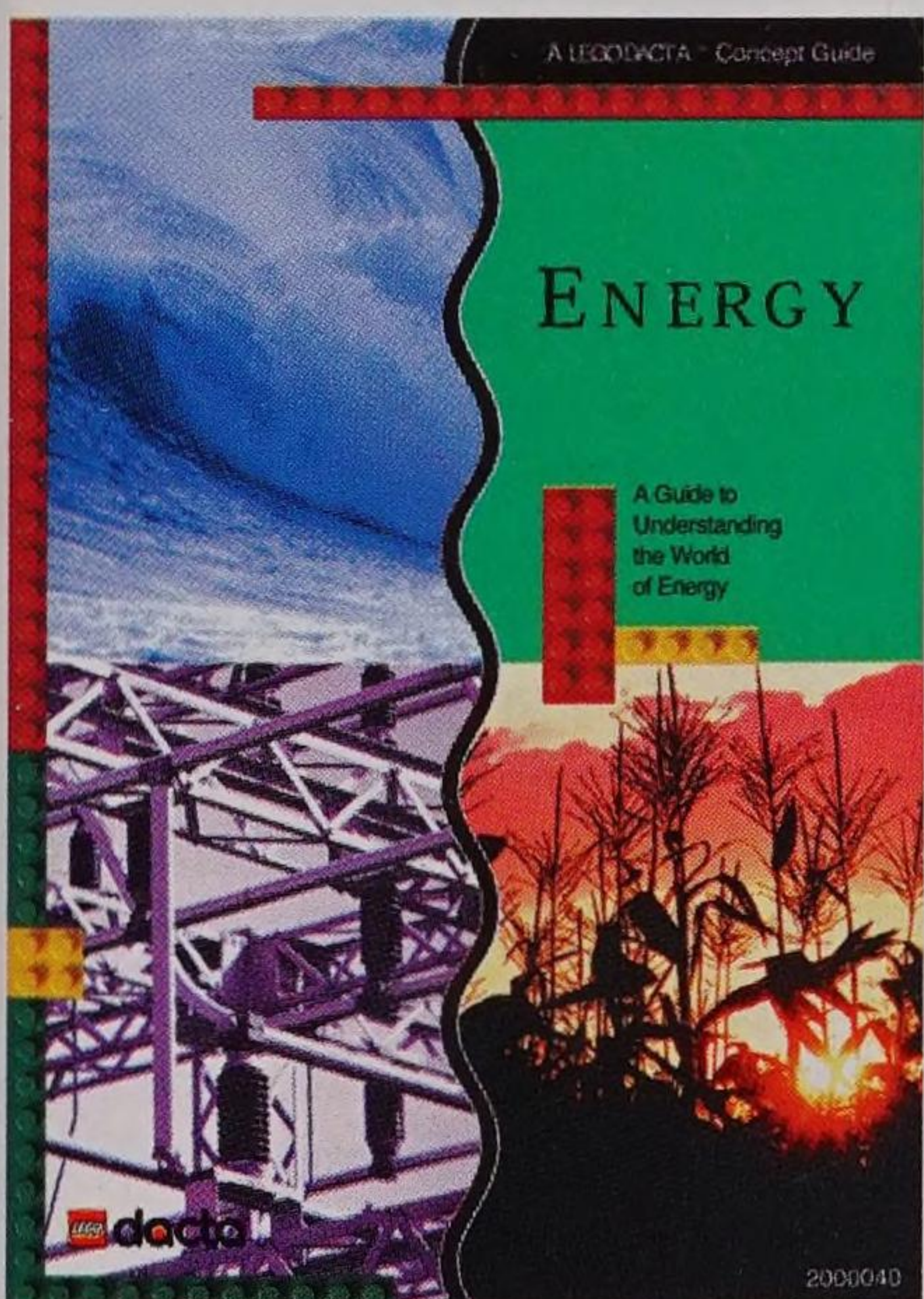
D909680—\$25

**New** **EXCLUSIVE**

## ENERGY CONCEPT GUIDE #900040

This light, informative concept guide puts energy in a clear perspective! It is a fact-filled introduction to energy, the scientists who discovered electrical energy, and methods for measuring this intangible commodity. Real-life examples highlight some of the ways in which energy can be put to work and some of the renewable energy sources capable of meeting a growing proportion of our power requirements. Brings the world of energy to life!

D900040—\$15.50



## Ideal Classroom Setup for 24 students

- 3 - eLAB Energy Work and Power Starter Sets (D979680)
- 1 - eLAB Energy Work And Power Activity Pack (D909680)
- 1 - Energy Concept Guide (D900040)
- 1 - Designs in Science - Using Energy (D751305) pg. 59
- 1 - Energy and Power - Environmental Facts and Experiments (D990219) pg. 53
- 1 - Usborne Energy and Power (D751497) pg. 53

**Total: \$822.05**  
plus shipping

**PITSCO** **LEGO** **dacta**  
PARTNERS IN INNOVATIVE EDUCATION




**New** **EXCLUSIVE**
**THE ELAB**
**RENEWABLE ENERGY SET #979681**

The eLAB Renewable Energy Set expands upon the energy themes presented in the *Energy Work Power Starter Set*, inviting students to explore the possibilities of sustainable energy from the sun, wind, and water. Solar energy can be captured by the LEGO Solar Cell and used to power a model Ferris wheel or car. Alternatively, create a windmill or watermill and witness wind or water power in action!

There are 721 elements, including one solar cell, one motor, two sorting trays, and building instructions for seven models.

**D979681—\$140**
**Order Online!**
**[www.pitsco-legodacta-store.com](http://www.pitsco-legodacta-store.com)**



# eLAB

LEGO SETS FOR SCHOOLS

## eLAB Renewable Energy

49

### DEVELOP SPECIFIC SKILLS WITH ELAB PRODUCTS

With eLAB sets, students can develop and build many skills in math, science, and technology, including the following:

- Investigating ideas
- Predicting results
- Considering factors that influence results
- Obtaining and recording data
- Analyzing results
- Evaluating strengths and weaknesses of data
- Drawing conclusions
- Communicating

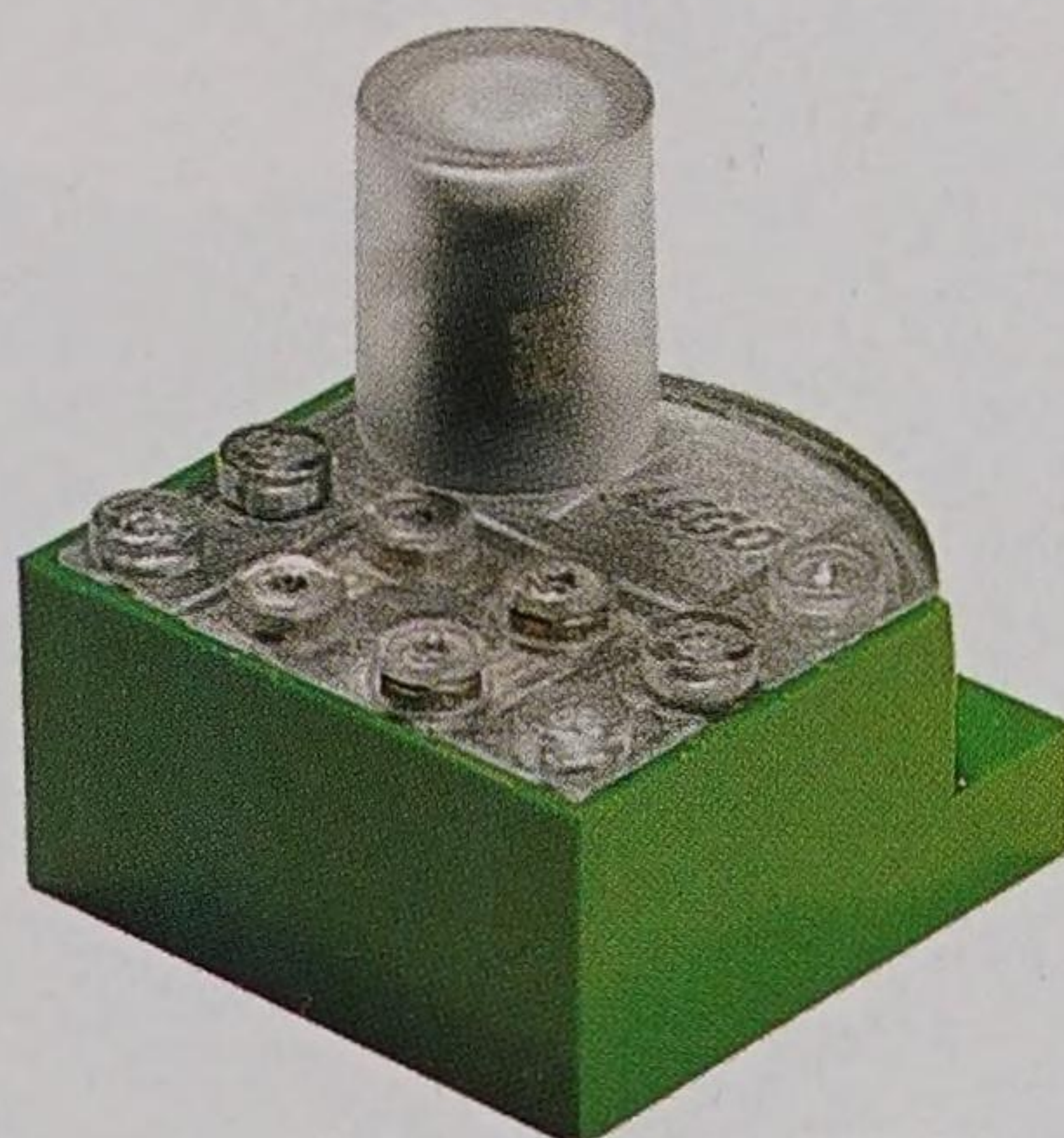
eLAB Energy, Work, Power . . . . . 46-47  
• eLAB Renewable Energy . . . . . 48-49  
Ray Catcher . . . . . 50-51  
Pneumatics . . . . . 54-55

### STANDARDS

These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site:  
[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

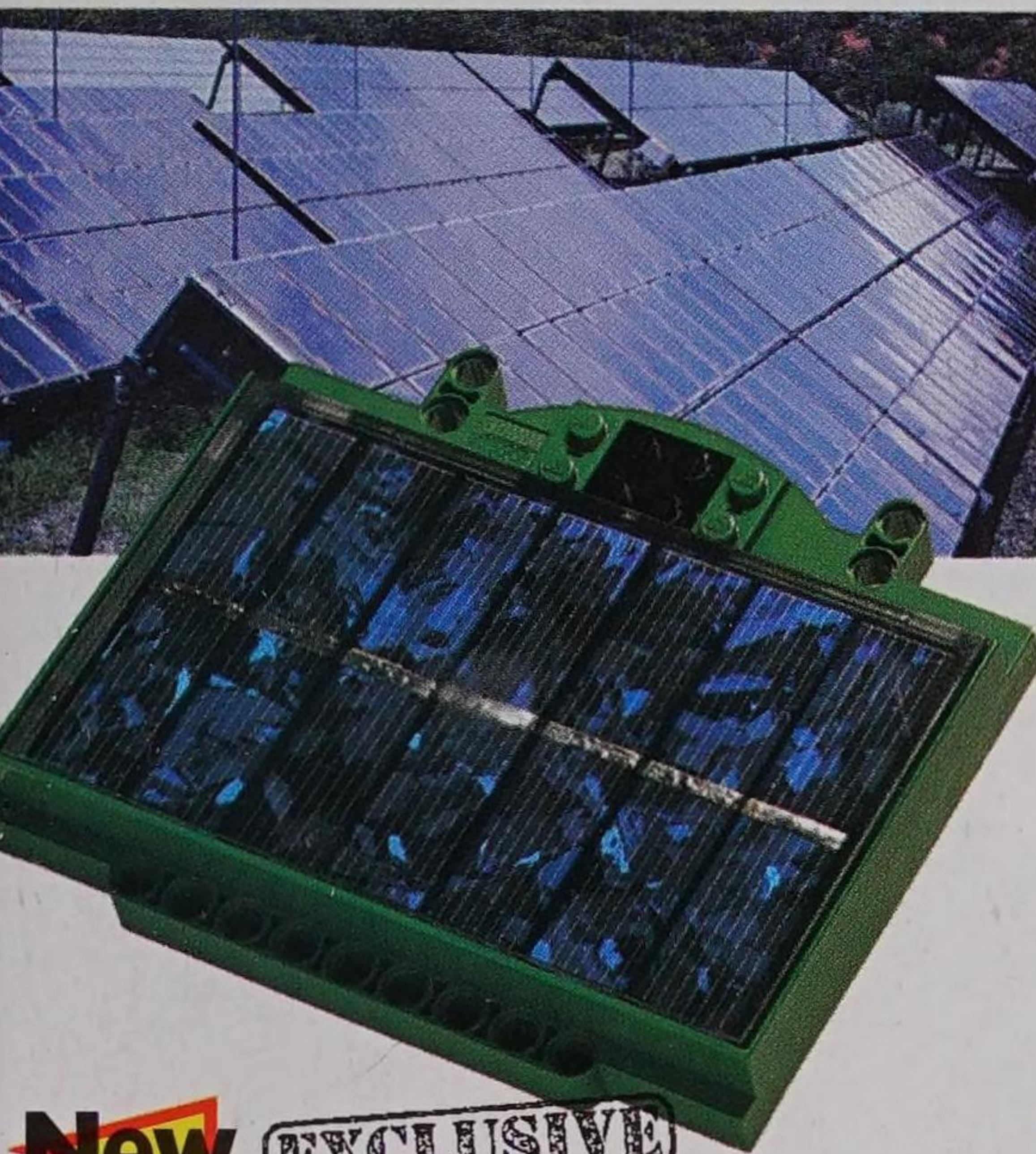


**Professional staff  
development available in  
most states.  
Call for details.  
1-800-362-4308**



### New EXCLUSIVE LEGO CAPACITOR #979916

An innovative LEGO device for efficient energy storage, the LEGO Capacitor is easy to connect and makes the principles of storing and transferring energy easy to understand.  
**D979916—\$15**

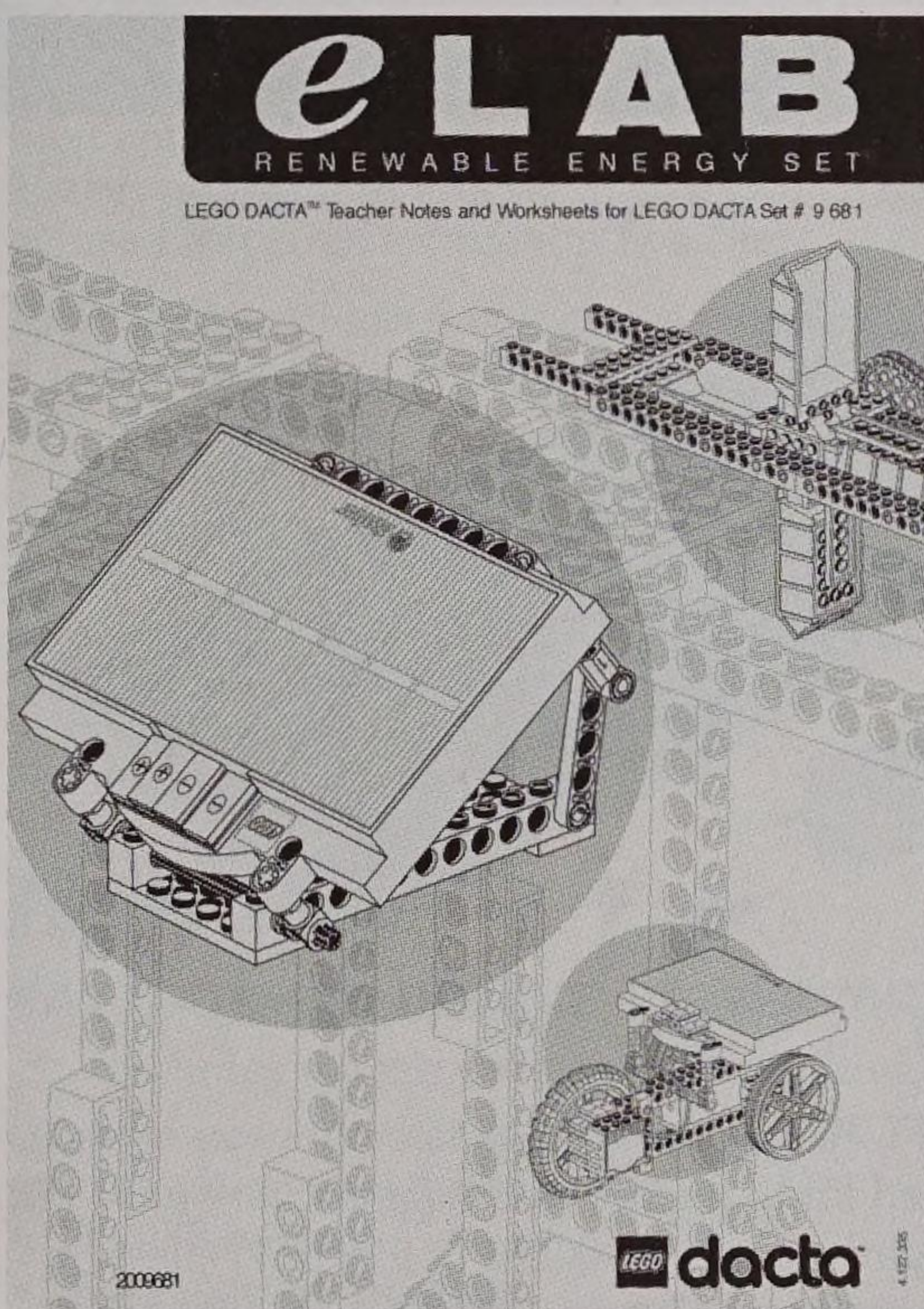


### New EXCLUSIVE

#### LEGO SOLAR CELL #979912

Specially designed to meet LEGO quality standards, the LEGO Solar Cell provides sufficient power to operate sturdy LEGO models. Easy to connect.

**D979912—\$35**



### New EXCLUSIVE

#### ACTIVITY PACK FOR ELAB RENEWABLE ENERGY SET #909681

A 74-page black-and-white activity pack presents learning objectives, topics for discussion, and worksheets covering the principles of renewable energy.

**D909681—\$25**

**PITSCO** **dacta**  
PARTNERS IN INNOVATIVE EDUCATION

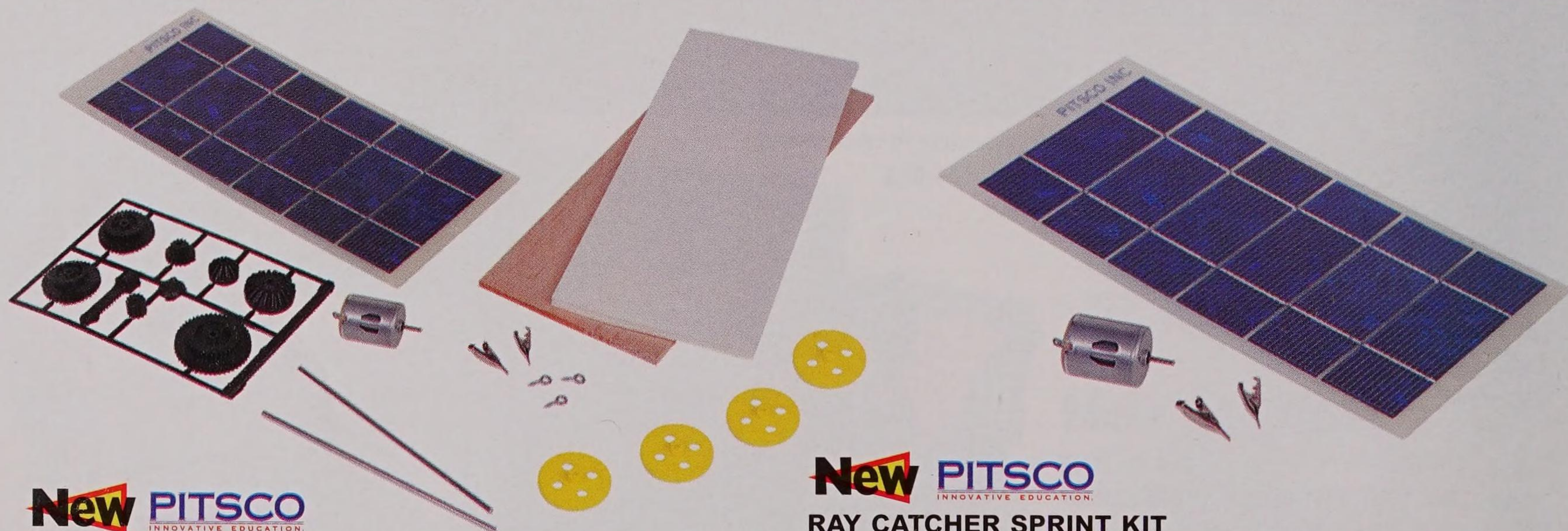
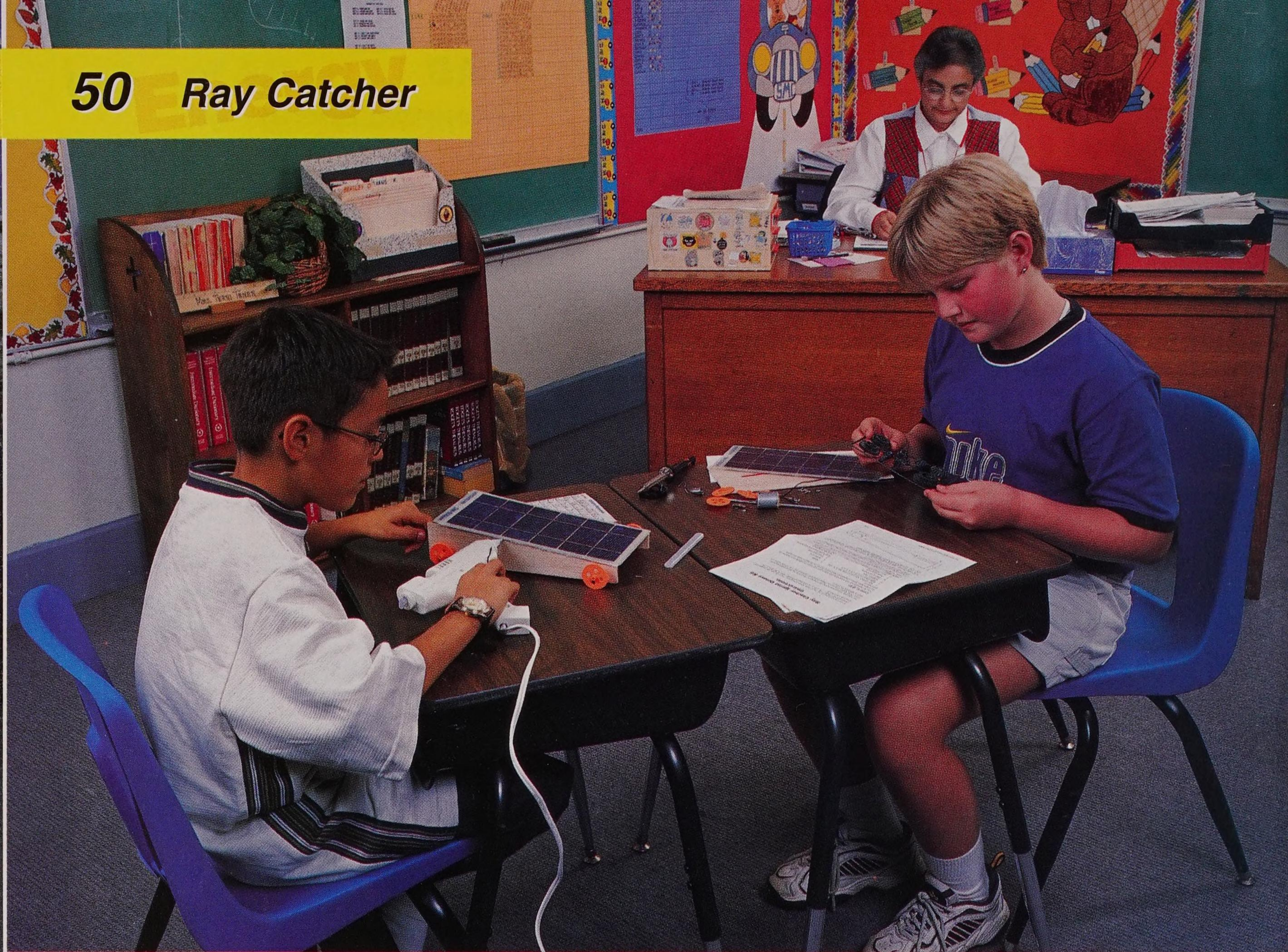
### Ideal Classroom Setup for 24 students

- 6 - eLAB Renewable Energy Sets (D979681)
- 1 - eLAB Renewable Energy Activity Pack (D909681)
- 1 - Energy Concept Guide (D900040) pg. 47
- 1 - Science in Action - Solar Energy (D756125) pg. 53
- 1 - Interactions - Solar Energy (D756588) pg. 51
- 1 - Energy and Power - Environmental Facts and Experiments (D990219) pg. 53

**Total: \$957.35**  
plus shipping



# 50 Ray Catcher



**New PITSCO**  
INNOVATIVE EDUCATION

## RAY CATCHER SPRINT DELUXE KIT

This deluxe kit contains the basic components, plus everything else you need to build a complete vehicle for the Junior Solar Sprint competition! The kit contains: electric motor, solar panel, two small alligator clips, four wheels, two aluminum axles (5-1/2" in length), Pitsco gears, balsa sheet (10-1/2" x 5"), 14-ply coated paper sheet (10-1/2" x 5"), four screw eyes, and instructions.

**D721211—\$54.95**

**Call Toll Free!**  
**800-362-4308**

**New PITSCO**  
INNOVATIVE EDUCATION

## RAY CATCHER SPRINT KIT

Now! A new, improved kit to replace our original *Sun Sprint Kit*! The new solar panel is slightly smaller (10-1/2" x 5" x 0.07"), less breakable, and has two mounting holes, enabling the student to attach it to the car body with screws. The kit still contains all the official parts and meets the minimum specifications required by the Junior Solar Sprint competition. It includes the solar panel, the official electric motor, and a pair of small alligator clips for easy hookup. Chassis, wheels, and transmission are not included in this kit.

**D721210—\$44.95**

**D754665 Alligator clips (pkg of 10)—\$4.95**

**D751046 AA Batteries (2 pack)—\$2.65**



eLAB Energy, Work,  
Power . . . . . 46-47  
eLAB Renewable  
Energy . . . . . 48-49  
• Ray Catcher . . . . . 50-51  
Pneumatics . . . . . 54-55

## STANDARDS

These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site:  
[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)



## PITSCO SOLAR WHEELS

Smooth wheels with very low rolling resistance. 1-1/8" diameter with O-ring "tire." Package of 100.  
**D713340—\$25**  
**10 for \$225**



## New PITSCO INNOVATIVE EDUCATION

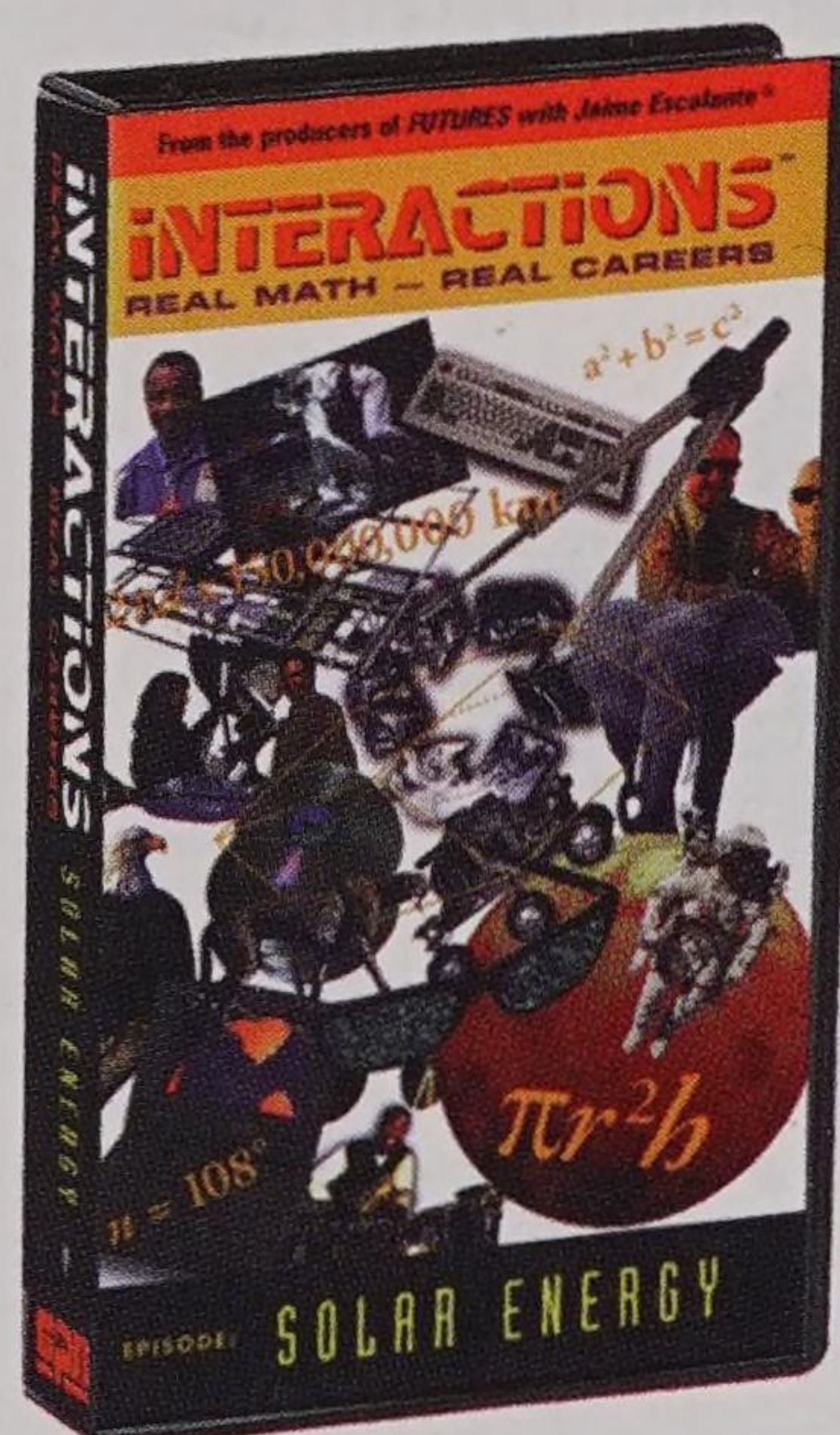
### RAY CATCHER (SOLAR PANEL ONLY)

This is the official solar panel of the Junior Solar Sprint competition. It measures 10-1/2" x 5" x 0.07". It is built of lightweight, yet super-strong, high-impact fiberglass laminate, and is weather resistant. The output is 2.6 to 2.8 volts at 1,100 mA. Includes 7" color-coded lead wires.

**D721112—\$39.95**

### INTERACTIONS: SOLAR ENERGY

*Solar Energy*, a video from the Real Math – Real Careers series, covers the concept of photovoltaics (electricity generated directly from sunlight). An engineer from Sandia National Laboratory in New Mexico describes how to determine the electricity needs of a village in Nicaragua and shows how solar technology changes the villagers' lives. Math topics include exponents, geometry, and percents. Time: 12 minutes. Level: Middle School-Adult  
**D756588—\$49.95**



### WIDE RUBBER BANDS

Approximately .5" width x 2" length. Package of 50.

**D756136—\$1.95**

**PITSCO** **LEGO** **dacta**  
PARTNERS IN INNOVATIVE EDUCATION

### Ideal Classroom Setup for 24 students

- 1 - Ray Catcher Deluxe PowerPak\* (D721533)
- 6 - Cool Melt Glue Guns (D751064) pg. 77
- 1 - Cool Melt Glue Slugs\* (D751061) pg. 77
- 25 - AA Batteries (2 pack) (D751046)

**Total: \$563.25**  
plus shipping

\* Consumables



## New PITSCO INNOVATIVE EDUCATION

### RAY CATCHER POWERPAK

The economical way to implement a solar racing competition!

The *Ray Catcher PowerPak* gives you the basics for 25 students (50 working in teams of two) to build an electric-powered vehicle. First, the students build the vehicle using a battery holder and two AA batteries (not included). For solar testing and on race day, students can use one of the five *Ray Catcher* solar panels with alligator clips to see how their cars will perform! Panels may be used again and again in following years, or could be used as prizes for the top five cars.

*Ray Catcher PowerPak* includes:

- 5 *Ray Catcher* solar panels
- 25 - 280 motors
- 25 AA battery holders
- Assembly and competition instructions
- 10 alligator clips

**D721532—\$325**

## New PITSCO INNOVATIVE EDUCATION

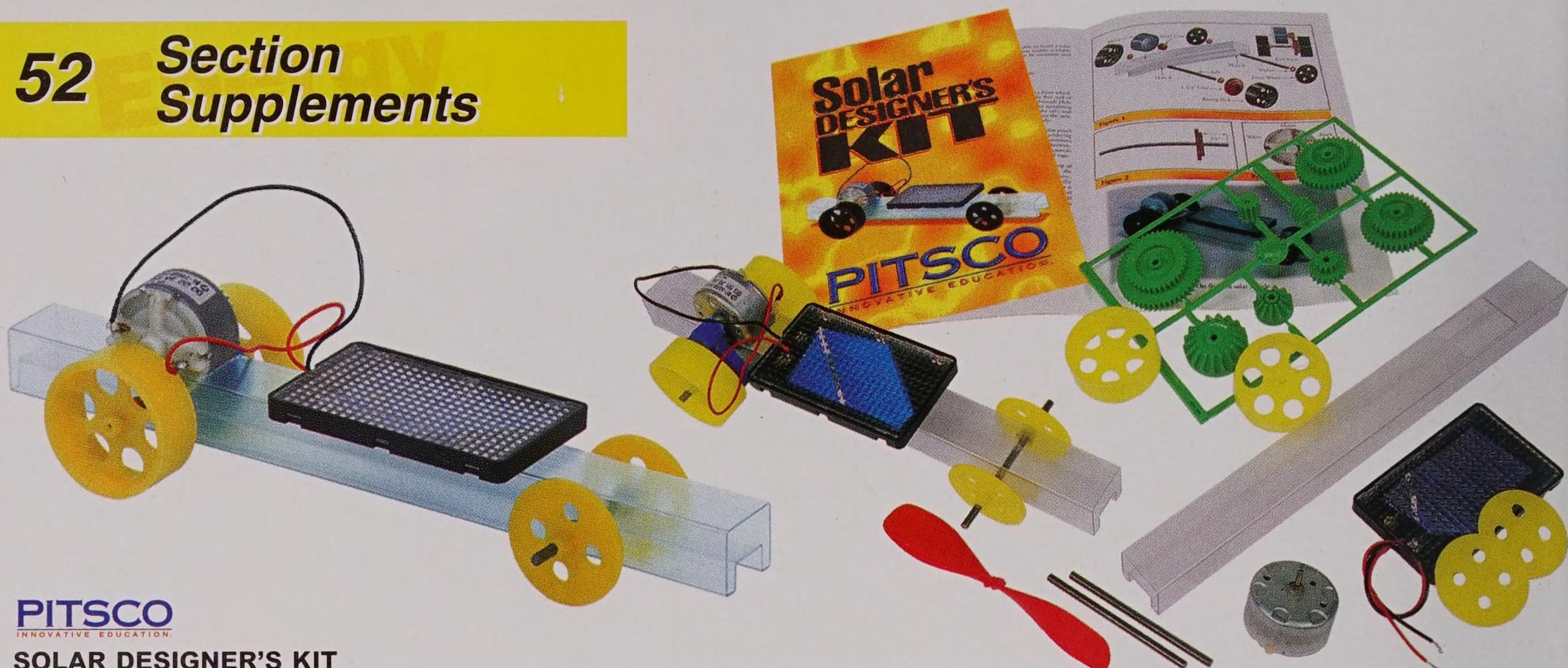
### RAY CATCHER DELUXE POWERPAK

Includes wheels, axles, and everything else you need for that special solar car.

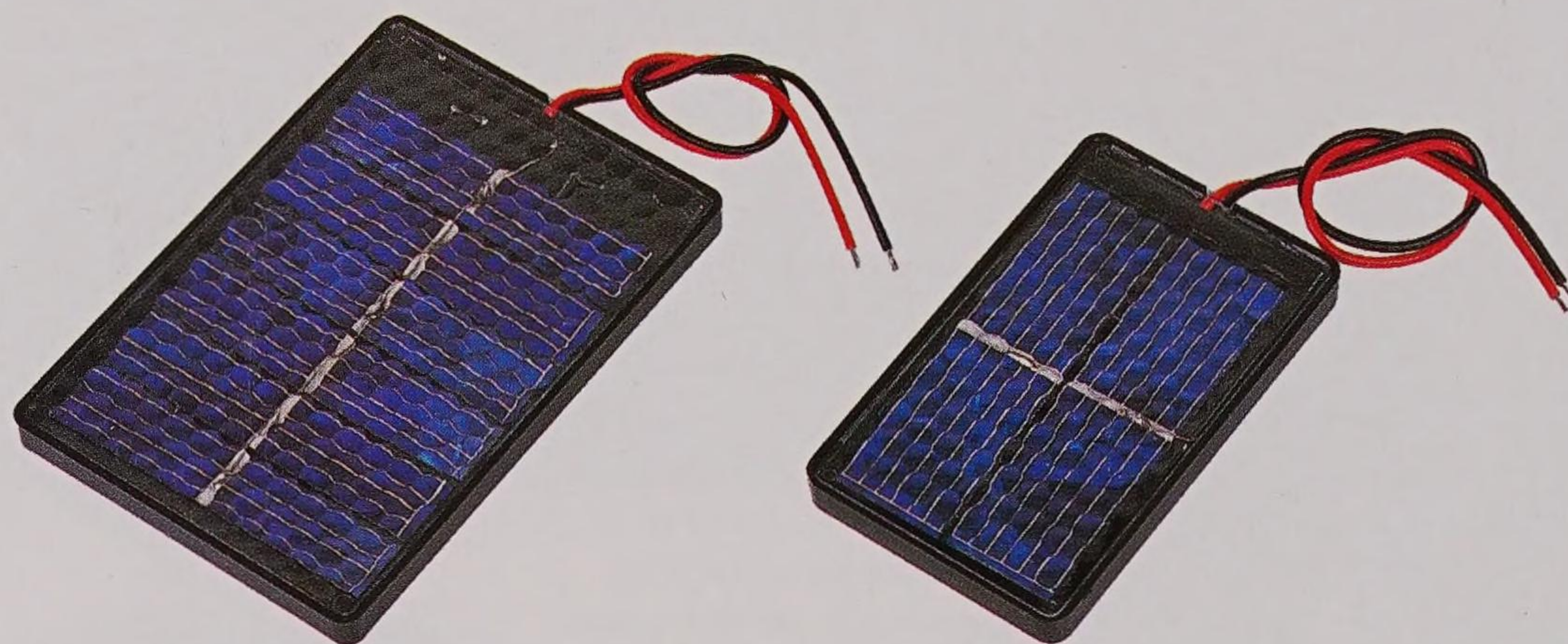
- 5 *Ray Catcher* solar panels
- 25 - 280 motors
- 25 AA battery holders
- 10 alligator clips
- 100 wheels
- 50 axles
- 25 balsa wood sheets
- 25 Pitsco gear fonts
- 100 screw eyes
- 25 panel patterns to simulate *Ray Catcher* panel location
- Assembly and competition instructions

**D721533—\$395**




**PITSCO**  
INNOVATIVE EDUCATION
**SOLAR DESIGNER'S KIT**

With this kit a team of two students makes a solar-powered car using the supplied parts and instructions. The team may modify the car to include its ideas. Other project ideas are suggested. Kit contains the following: solar panel (.45V, 400 mA) 1-3/4" x 2-15/16", DC motor, plastic car body, Pitsco plastic gear font, two axles, four Pitsco wheels, four 1/8" brass washers, propeller, and instruction guide. Car will travel under bright sunlight.

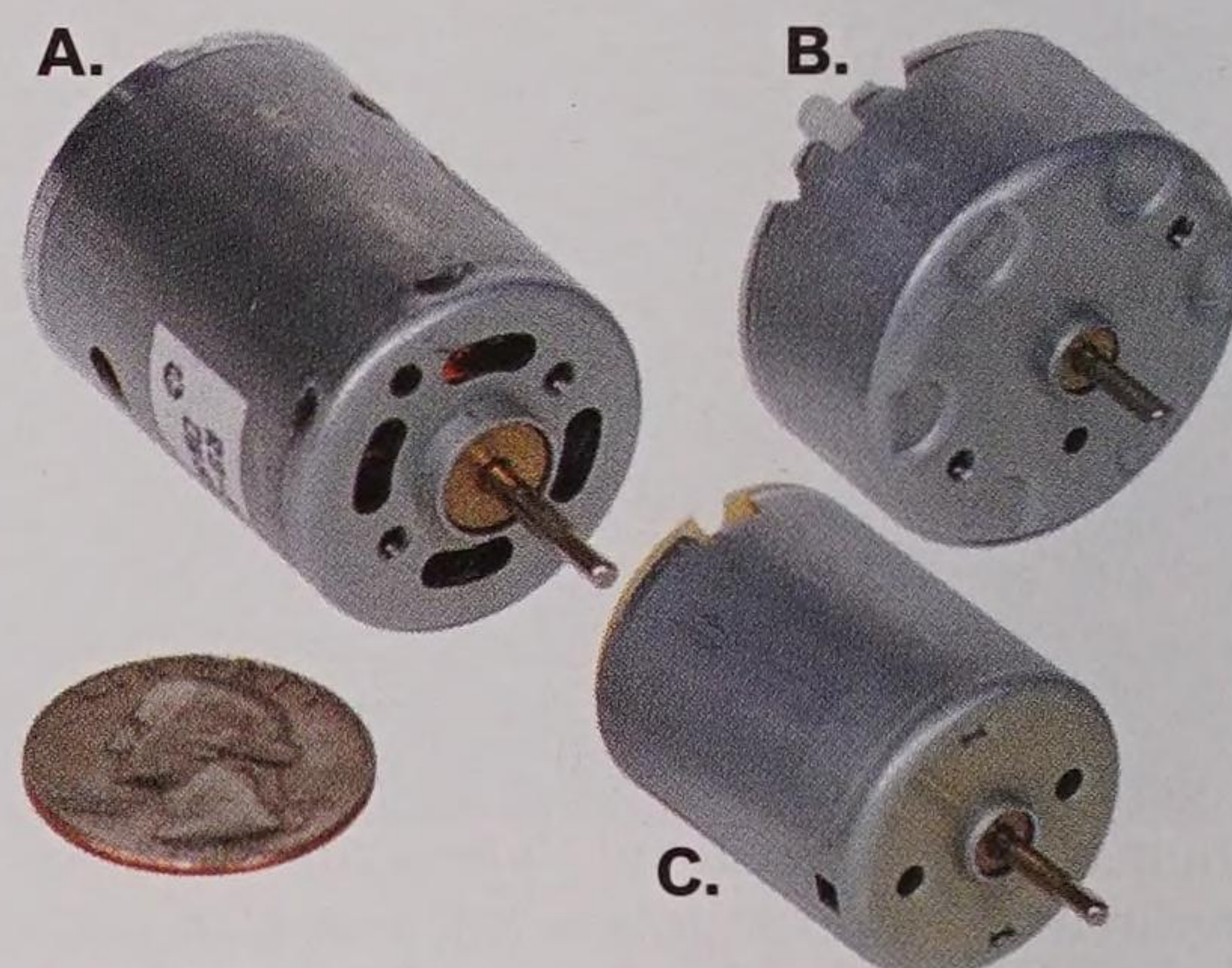
**D750073—\$13.50**
**10 for \$121.50**
**SOLARPAK D751417 (for 25 students)—\$295**

**SOLAR MINI PANEL**

Connect these solar panels to motors to make solar-powered vehicles and other projects. These solar cells are enclosed in plastic cases, so they are durable in your classroom. All panels are 2-5/8" x 3-3/4" except for D756870 which is 3" x 1-3/4".

**D756870 (1.0V, 200 mA)—\$4.95**
**10 for \$45**
**D750074 (.45V, 400 mA)—\$4.95**
**10 for \$45**
**D756852 (2.0V, 200 mA)—\$8.95**
**10 for \$81**
**D756851 (1.0V, 400 mA)—\$4.95**
**10 for \$45**
**D756871 (0.5V, 800 mA)—\$8.95**
**10 for \$81**

**PITSCO**  
INNOVATIVE EDUCATION
**PLASTIC GEARS**

Use with your inventions, vehicles, and other moving models. Gear hole is 1/8" (3 mm) and will fit on 1/8" axles. The smallest gear has a hole (1/16" ID) that fits the shaft of our mini motors.

**D714841—\$5**
**10 for \$45**
**100 for \$405**

**A. MOTOR 385**

A heavy-duty motor with carbon brushes. It is an excellent choice for robotics design, model racing cars, R/C vehicles, or any other high-torque, low-power consumption applications. 6-24 VDC, 1,300 mA. No load speed 14,300 rpm, stall torque 7.71 oz/in.

**D750076—\$4.50**
**10 for \$40.50**
**B. MOTOR 500**

Use this motor with our Pitsco plastic gears. Smooth running motor with very low starting friction. Endless design possibilities. Operating range: 1.5-4 VDC, 150 mA.

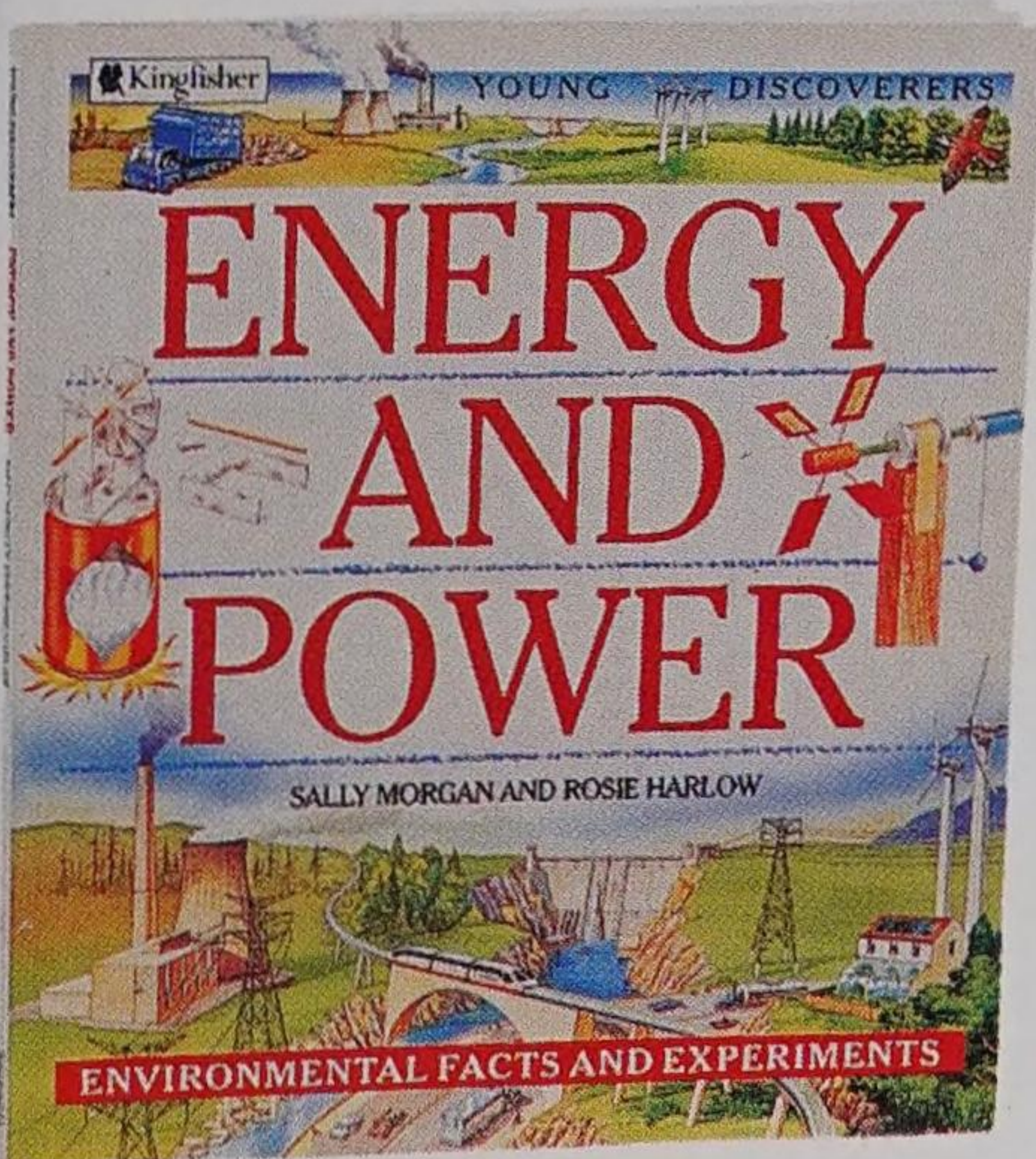
**D750075—\$3.50**
**10 for \$31.50**
**C. MOTOR 280**

A great little motor for small electric vehicles or solar racers. This is the motor specified by the Junior Solar Sprint competition! Operating voltage: 1.5-3VDC at 330 mA.

**D754428—\$1.75 each**
**10 for \$15.80**
**FreeFax™ Orders!**  
**888-534-6784**



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eLAB Renewable Energy . . . . .	48-49
Ray Catcher . . . . .	50-51
Pneumatics . . . . .	54-55

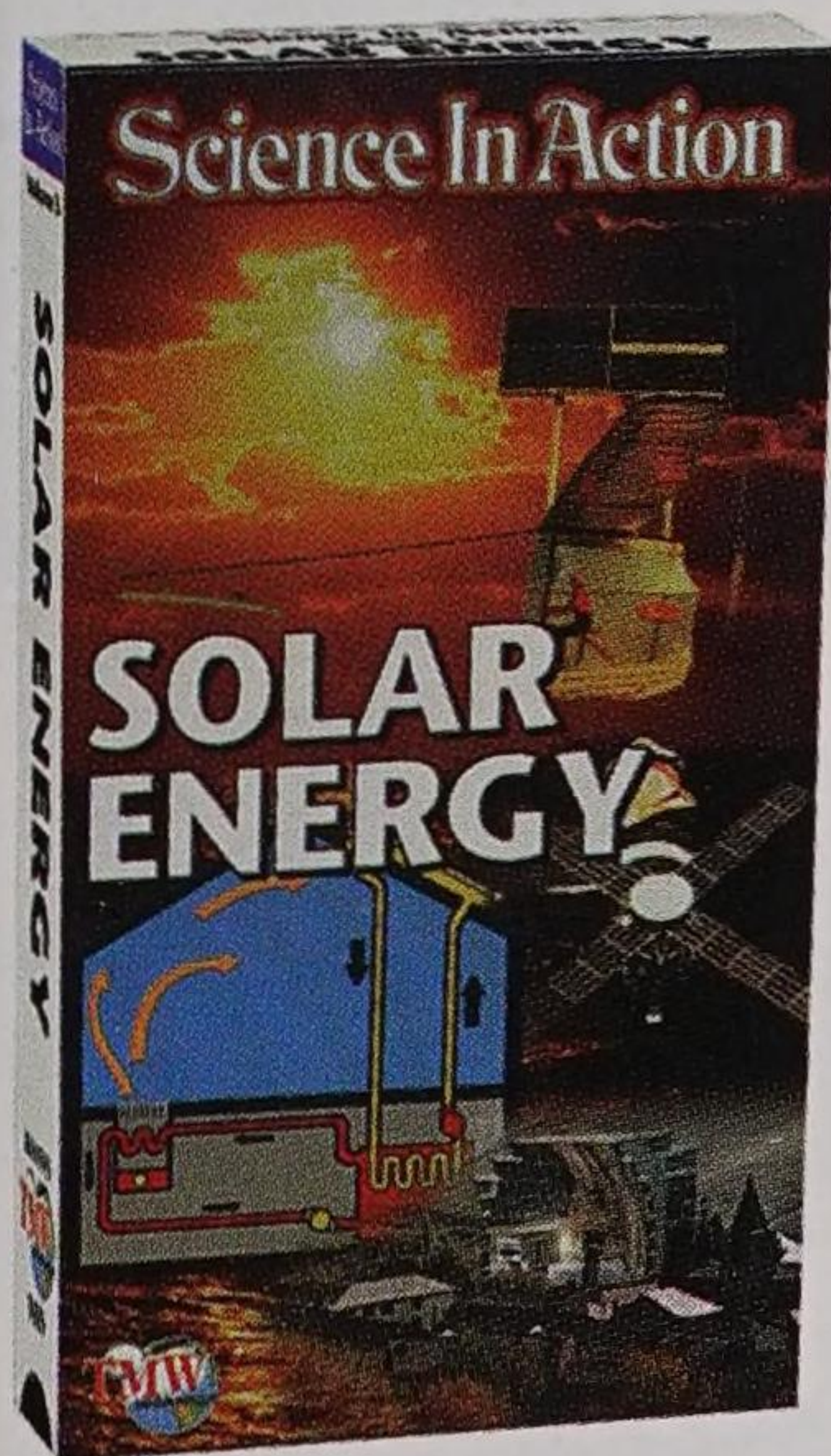


**New**

## ENERGY AND POWER: ENVIRONMENTAL FACTS AND EXPERIMENTS

A brief, very clear introduction to energy and power and their uses. Each section includes a "Do It Yourself" activity illustrating concepts related to different types of power generation and energy-related pollution. Excellent for Grades 3-5. Paperback, 32 pages.  
*Level: Early Learning-Intermediate*

**D990219—\$6.95**



## SCIENCE IN ACTION: SOLAR ENERGY

This volume of a six-volume series explores solar energy. In its three segments: "Capturing Solar Energy," "Transferring Solar Energy," and "Storing Solar Energy," students will learn how the sun's energy is captured and controlled to serve many important and efficient uses. Between each segment, questions challenge the students to think about and respond to what has been taught. In addition, there is a short break point between each segment that gives the teacher the opportunity to discuss the section with the students. Time: 18 minutes.  
*Level: Middle School*

**D756125—\$19.95**



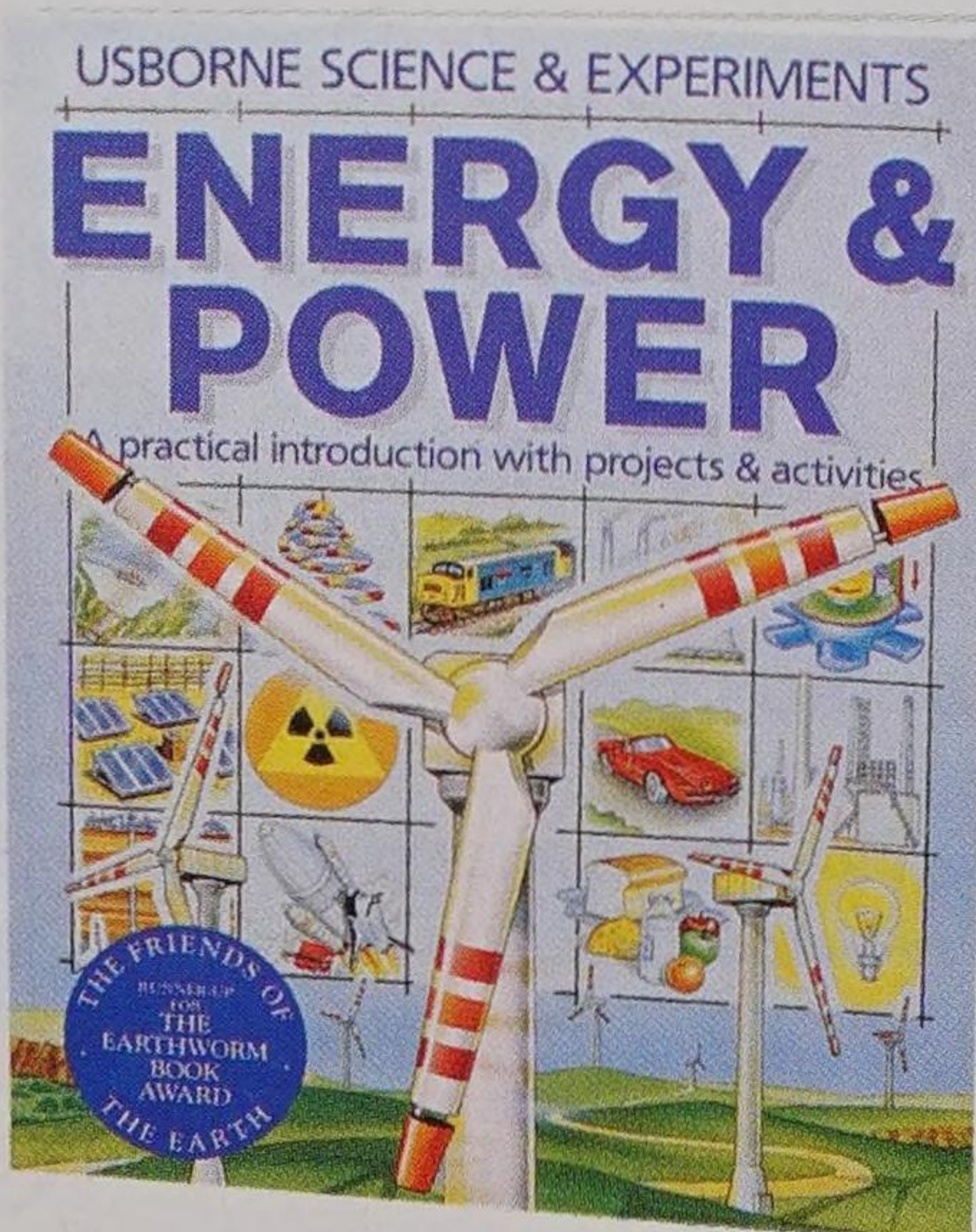
**PITSCO**  
INNOVATIVE EDUCATION.

## WINDYNAMO WIND GENERATOR

Demonstrate the use of alternative energy to students by harnessing the wind to generate electricity! The Pitco Windynamo converts the wind produced by a 20" box fan into electrical energy and sends it to a multifunction output module. The output module features a liquid crystal readout that displays the voltage produced and three output devices that convert the electricity into other energy forms. Sound, light, and mechanical energy (or any combination) can be observed with the push of a button. The Windynamo's propeller blades can be adjusted to various pitch angles.

Includes connecting wires and problem-solving activities that introduce students to the principles of wind power. Requires a 20" box fan (not included).

**D713291—\$495**



## USBORNE ENERGY & POWER

This practical introduction represents active science learning of the highest quality.

Basic information of the subject is combined with hands-on activities, experiments, and projects. The latest up-to-date developments are examined along with the environmental problems that might accompany them.

Paperback, 48 pages.

*Level: Intermediate-High School*

**D751497—\$7.95**



# 54 Pneumatics



**LEGO Technic**

## PNEUMATICS I: INTRODUCTION TO AIR POWER SET #979617 **EXCLUSIVE**

75 building elements

This set is designed for learning introductory pneumatics. Students explore the functions of each compressed-air element as they build and operate simple models. The models include a simple pneumatic circuit, a vertical press, and a scissors lift. Besides discovering the operation of pneumatic systems, students also work with first-, second-, and third-class levers.

- Designed to be used with students working in pairs
- Includes a two-way pneumatic cylinder, a pneumatic valve, a hand pump, and tubing
- Three building cards with step-by-step pictorial instructions
- Sturdy plastic storage case with clear compartmentalized tray
- Cleanup and inventory made simple with pictorial parts list

D979617—\$32.50

**Best Buy!** **EXCLUSIVE**

## PNEUMATICS I: INTRODUCTION TO AIR POWER CLASS PACK #900022

This pack introduces the basics of pneumatics to an entire class. It's designed for 20 students working in pairs. The pack includes:

- 10 Introduction to Air Power Sets (#979617)
- Pneumatics Teacher's Guide (#979634)
- Discovering Fluid Power video (#771145)

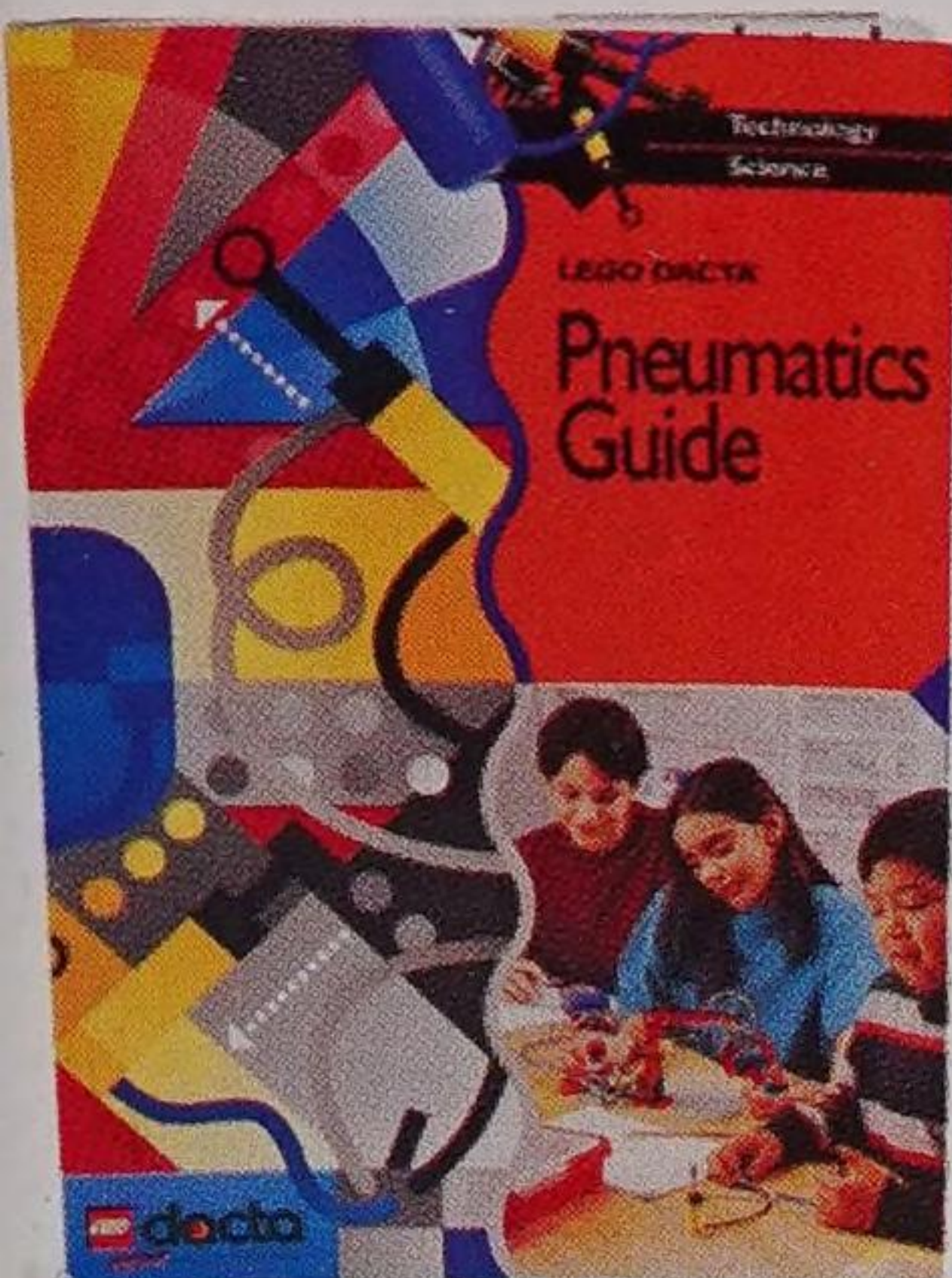
D900022—\$350

**Order Online!**

[www.pitsco-legodacta-store.com](http://www.pitsco-legodacta-store.com)







eLAB Energy, Work,  
Power ..... 46-47  
eLAB Renewable  
Energy ..... 48-49  
Ray Catcher ..... 50-51  
• Pneumatics ..... 54-55

## STANDARDS

These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site:

[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

**EXCLUSIVE**

### PNEUMATICS II

#979633

208 elements

This set is designed for in-depth, hands-on learning of pneumatics. Students first build a compressor that operates all of the additional models: a simple circuit, sliding door, robot arm, and Jaws of Life. The instructions include a photo of the real-world version of each model. As an option, the models in this kit can be used with the LEGO Dacta 9-volt computer-controlled products.

- Designed to be used by students working in pairs
- Includes 2 two-way pneumatic cylinders, three valves, a motorized compressor module, and pneumatic tubing.
- 36-page booklet with five building projects
- 8-page supplemental booklet with optional ideas for computerizing the pneumatic models
- Sturdy plastic storage case with clear compartmentalized tray
- Cleanup and inventory made simple with pictorial parts list

D979633—\$100

**EXCLUSIVE**



**Best Buy!**

**EXCLUSIVE**

### PNEUMATICS II:

TECHNOLOGY PACK #900023

This special pack works well with the modular approach or can be used to jump-start a class collection. It's designed to be used by six students working in pairs. Includes:

- 3 Pneumatics II sets (#979633)
- Pneumatics Teacher's Guide (#979634)
- Discovering Fluid Power video (#771145)

D900023—\$340



## DISCOVERING FLUID POWER

This great 12-minute video covers the basic concepts of fluid power, touches on the scientific principles behind it, and emphasizes its capabilities. It shows real-world examples of both hydraulic and pneumatic applications at work. Designed for science and math teachers and students, it's a super way to introduce the concepts of pneumatics.

D771145—\$30



### SYRINGE MOUNTING CLIPS

D750002 6-cc (pkg of 10)—\$17.95

D750003 12-cc (pkg of 10)—\$19.95

### 6-CC SYRINGE

D750973—\$.50 ea

10 for \$4.50

### 12-CC SYRINGE

D750974—\$.75 ea

10 for \$6.70

### 20-CC SYRINGE

D752525—\$.95 ea

10 for \$8.50

### 30-CC SYRINGE

D750975—\$1.35 ea

10 for \$12.50

### 35-CC SYRINGE

D752526—\$1.50 ea

10 for \$13.50

### FLEXIBLE TUBING

1/8" inside diameter.

D750972 (100' roll)—\$9

D753630 Double-Stick Tape—\$6.50

**PITSCO** **LEGO dacta**  
PARTNERS IN INNOVATIVE EDUCATION

## Ideal Classroom Setup for 24 students

### For Elementary School classes

1 - Pneumatics I Class Pack  
(D900022)

1 - Science Fair Projects - Energy  
(D756119) pg. 59

**Total: \$359.95**  
plus shipping

### For Middle and High School

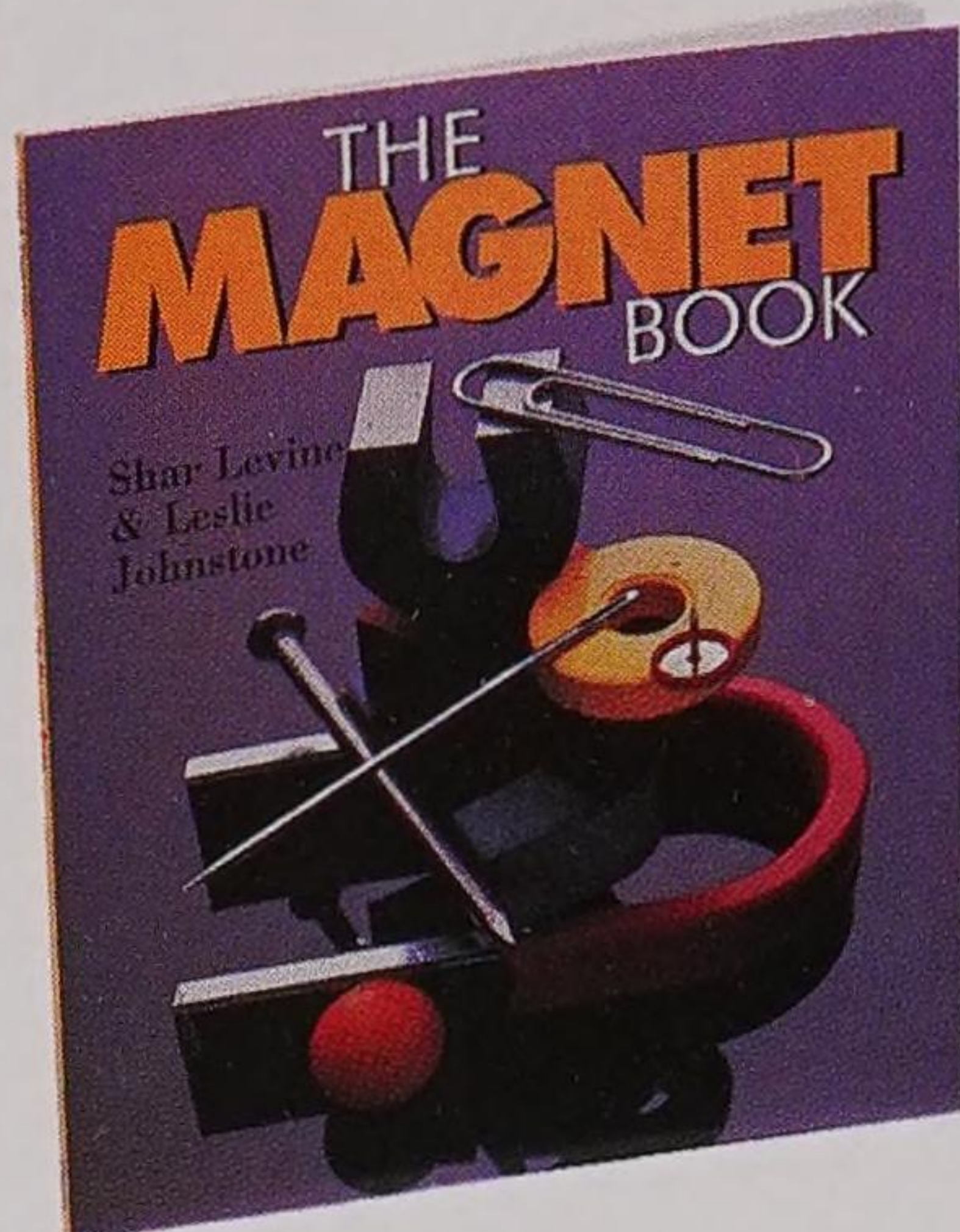
1 - Pneumatics II Technology Pack  
(D900023)

9 - Pneumatics II Building Sets  
(D979633)

9 - Energy and Power -  
Environmental Facts and Experiments  
(D990219) pg. 53

**Total: \$1,302.55**  
plus shipping





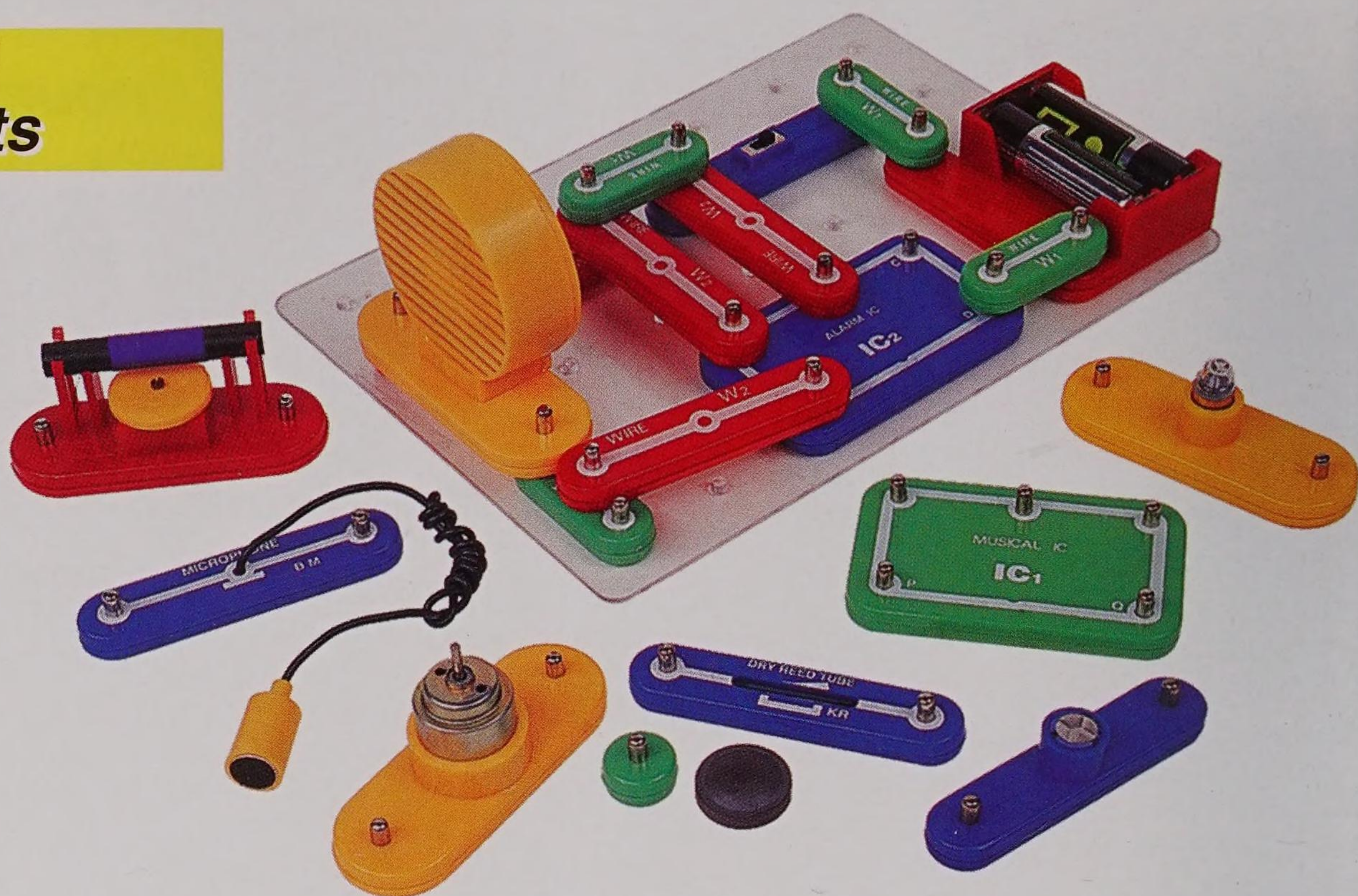
## THE MAGNET BOOK **New**

Hours of magnetic fun and discovery will ensue, as kids use this book to penetrate the mysterious world of magnets, using simple materials and the step-by-step instructions given. The book contains 39 games, tricks, and experiments, ranging from magic tricks to perform in public to the construction of an electromagnet and an electric motor.

Paperback, 80 pages.

Level: Intermediate-Middle School

D990220—\$11.95



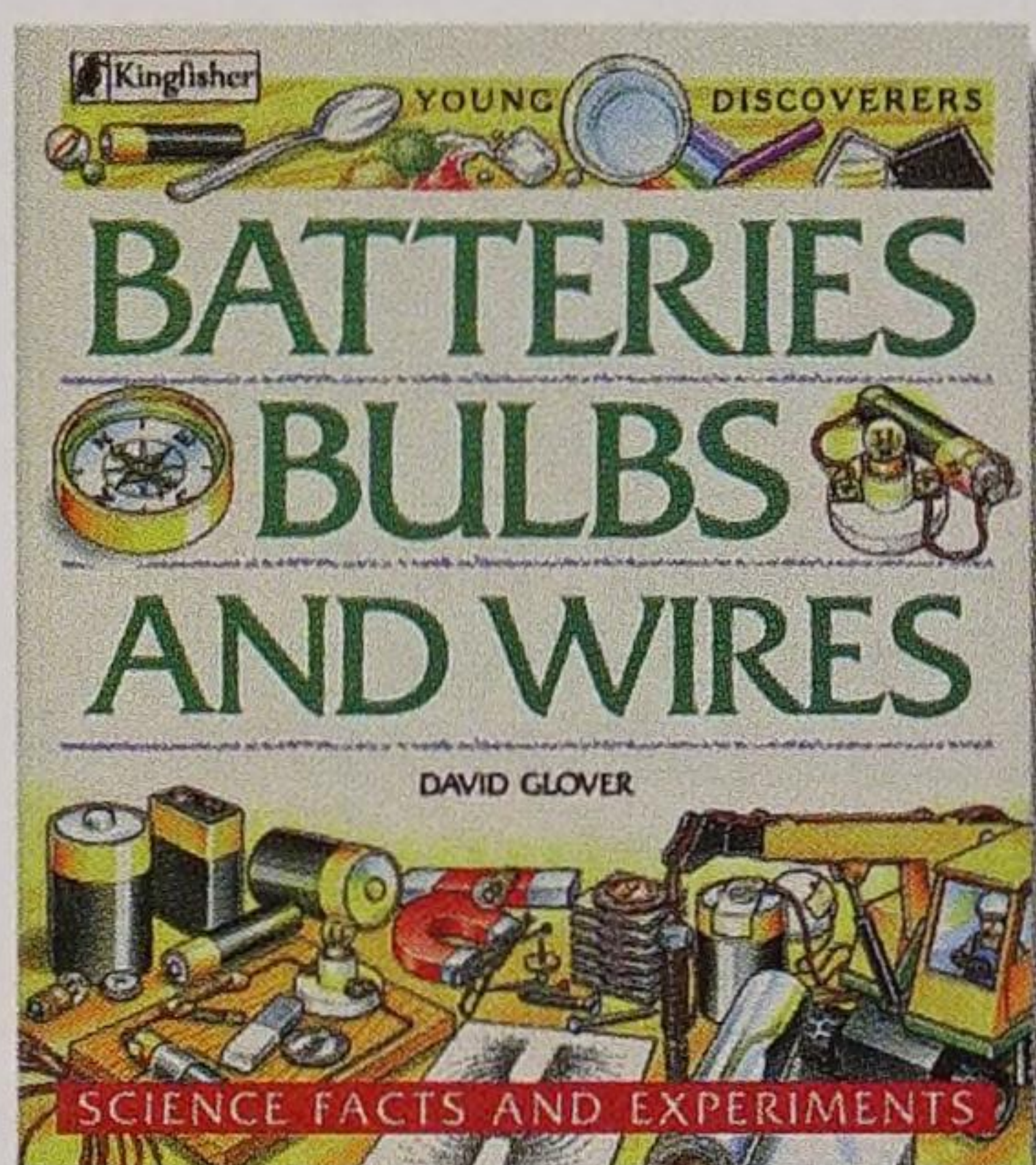
## SWITCH ON! ELECTRONIC BUILDING BLOCK SET

With this innovative set, children as young as eight can discover the basic principles of electronics. In the same way that children build towers with wooden blocks, they can build real, functioning electrical circuits with *Switch On!*

From the most basic to intricate, more than 40 different circuits can be built with the color-coded components. Components are large and easily manipulated by small hands. Set includes battery box, electric motor, fire engine siren, flashing doorbell, diode, resistors, transistors, capacitors, conductors, potentiometer – 50 pieces in all!

Includes complete step-by-step instructions and a base building plate. Requires 4 AA batteries, not included. Ages 8 and up.

D756121—\$59.95



## BATTERIES, BULBS, AND WIRES

A great resource book! It's a take-home-and-do book, which portrays the world of science in everyday life. It contains a wide range of safe, easy-to-do experiments, using simple household items, and "eye-spy" observations that give practical understanding to each subject. This is an ideal book for your wonderfully inquisitive young readers.

Paperback, 31 pages.

Level: Intermediate

D756070—\$7.95

## MAGNETS: MAGNET DISCOVERY KIT

Unlock the mystery of magnetism! This kit contains an assortment of powerful magnets, fun accessories, and a booklet full of incredible activities that teach the basic principles of magnetism. Once kids get their hands on these magnets, they'll never want to put them down. So get ready for some fascinating, fantastic fun with magnets! For ages 8 and up.

D756072—\$29.95



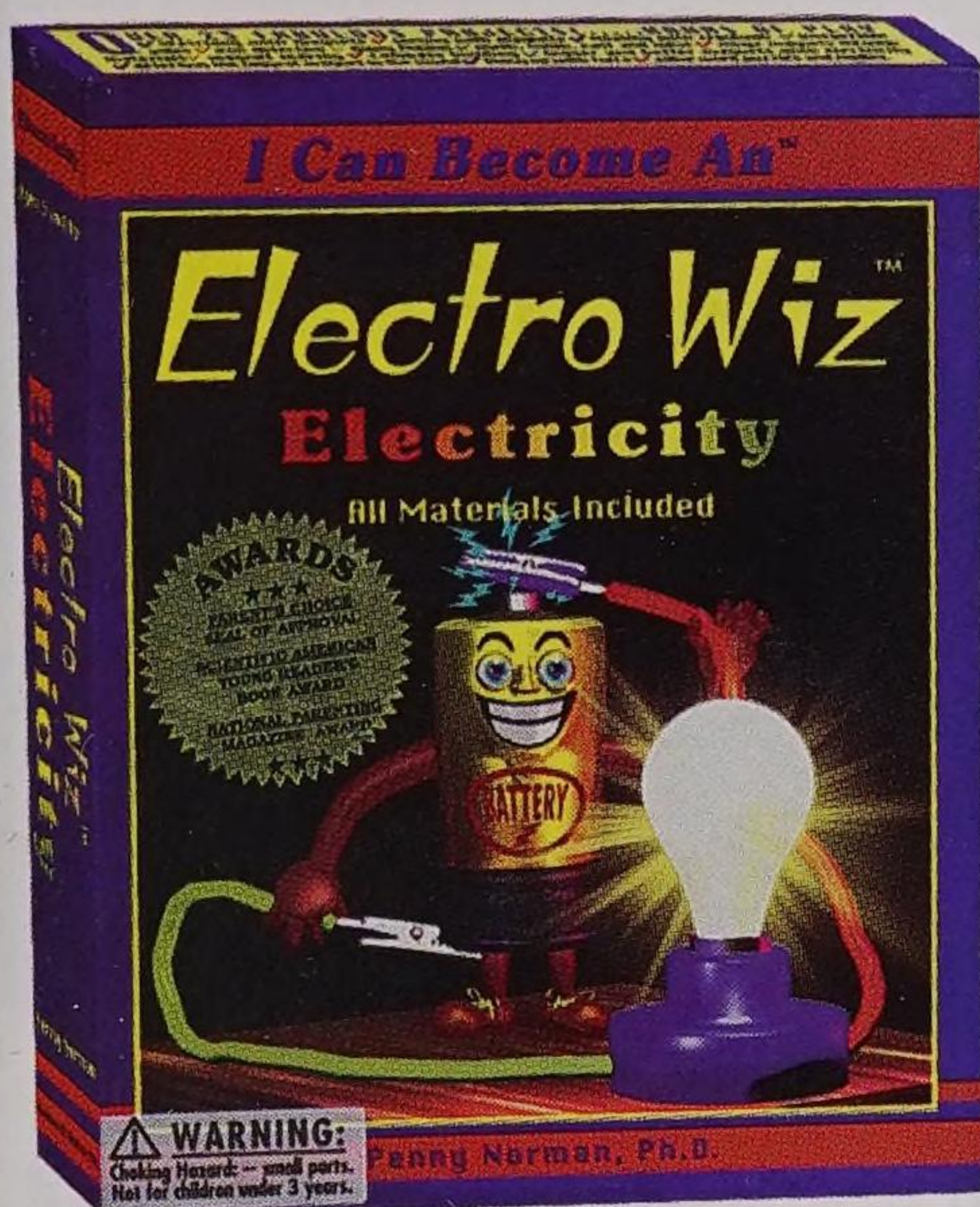
## DYNAMO FLASHLIGHT

This cool flashlight pays tribute to Michael Faraday's 1831 discovery: mechanical energy can be converted into electrical energy by moving conductors through magnetic fields. The light requires no batteries; you operate it by squeezing the lever handle, which spins a simple generator. The generator, in turn, powers the light. The clear shell exposes all the internal parts, so you can see the science at work! Includes an extra bulb.

D756062—\$14

**Call Toll Free!**  
**800-362-4308**

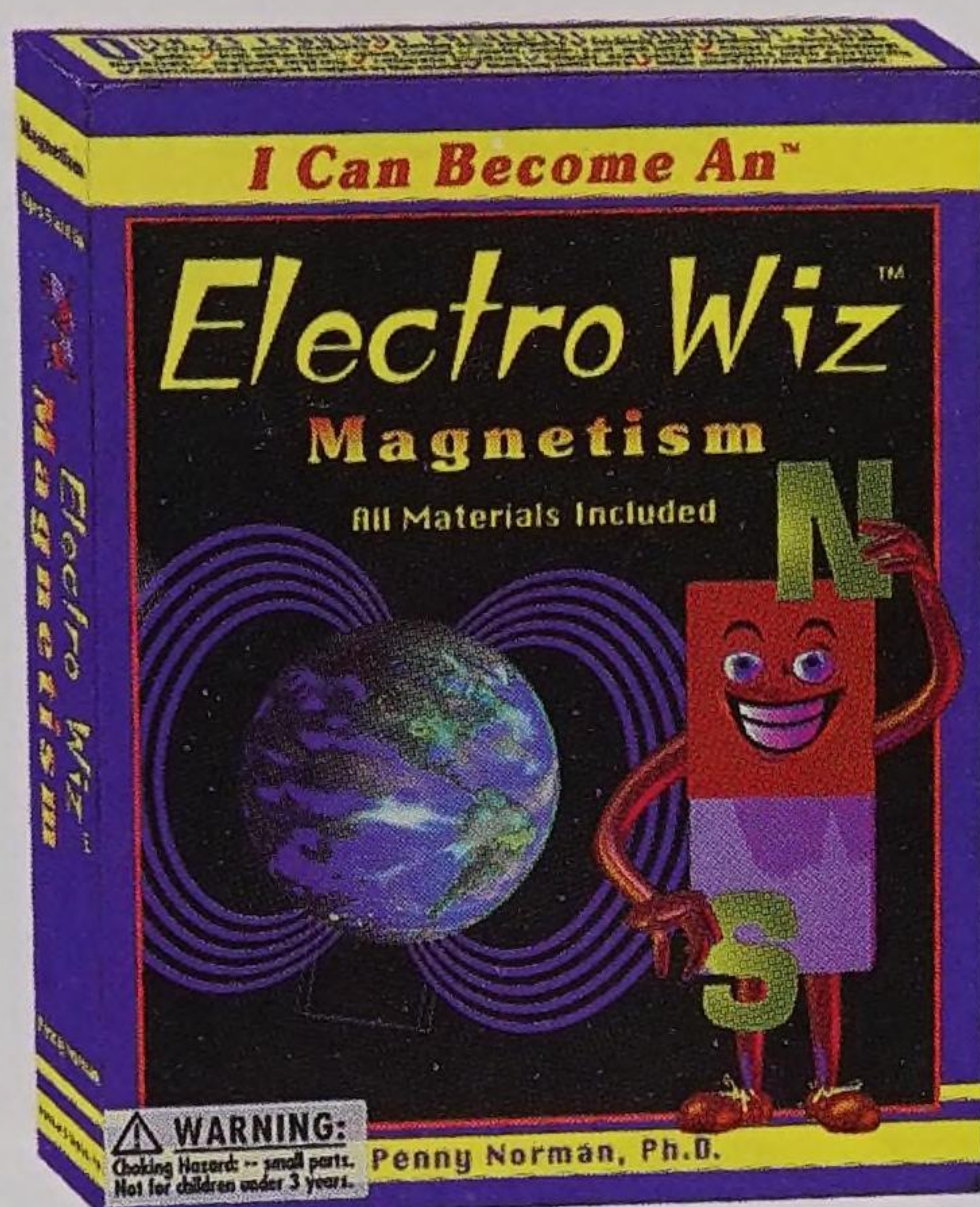




## ELECTRO WIZ: ELECTRICITY

This great little kit can help kids as young as five discover the principles of electricity. The excellent full-color booklet features dynamic 3-D illustrations and concise, kid-friendly instructions. The kit includes everything kids need to complete several fun and simple electricity experiments. Includes: electric motor, four color-coded alligator leads, pinwheel, lightbulb and holder, buzzer, LED, hard plastic storage case, 36-page book, and more. Ages 5 and up.

**D756081—\$19.95**



## ELECTRO WIZ: MAGNETISM

The 23 fabulous projects in this kit can help young students become magnetism experts. The excellent full-color booklet features dynamic 3-D illustrations and concise, kid-friendly instructions. The kit includes everything kids need to complete several fun and simple magnetism experiments. Includes: heavy-duty mega magnet, compass, iron filings, magnet wire and string, stickers, plastic storage box, 40-page booklet, and more. Ages 5 and up.

**D756082—\$19.95**



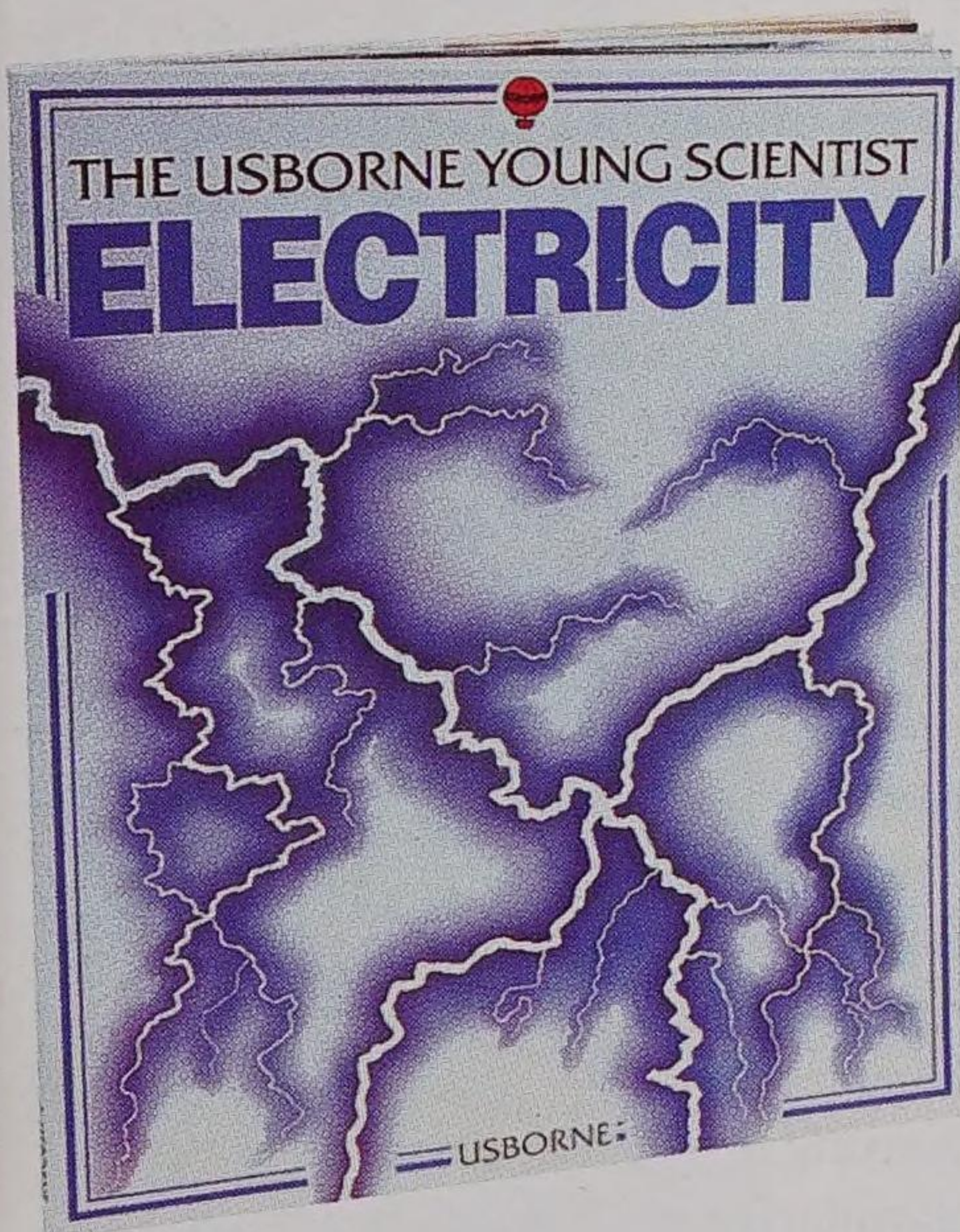
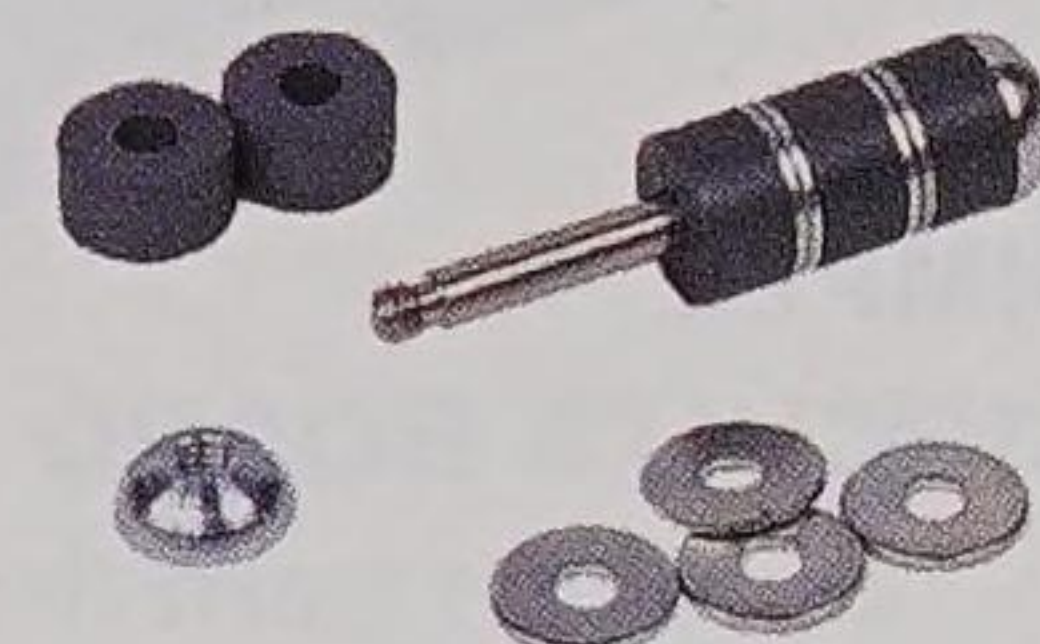
## MOO MAGNET

Holy cow! Here's a little-known magnet fact: veterinarians often give 6-month-old calves pills that are actually powerful magnets. The magnets stay in the critters' stomachs for a lifetime, picking up harmful metal, such as staples, nails, and bailing wire, swallowed while grazing.

This fun and educational kit contains one Moo Magnet set and a 16-page booklet that helps kids discover the basic principles of magnetism. In national taste tests, three out of four cows preferred Moo Magnets over the leading brand. *But seriously folks, these Moo Magnets are not suitable for use in real cows.*

**D756071—\$7.95**

eLAB Energy, Work,  
Power . . . . . 46-47  
eLAB Renewable  
Energy . . . . . 48-49  
Ray Catcher . . . . . 50-51  
Pneumatics . . . . . 54-55



## USBORNE: ELECTRICITY

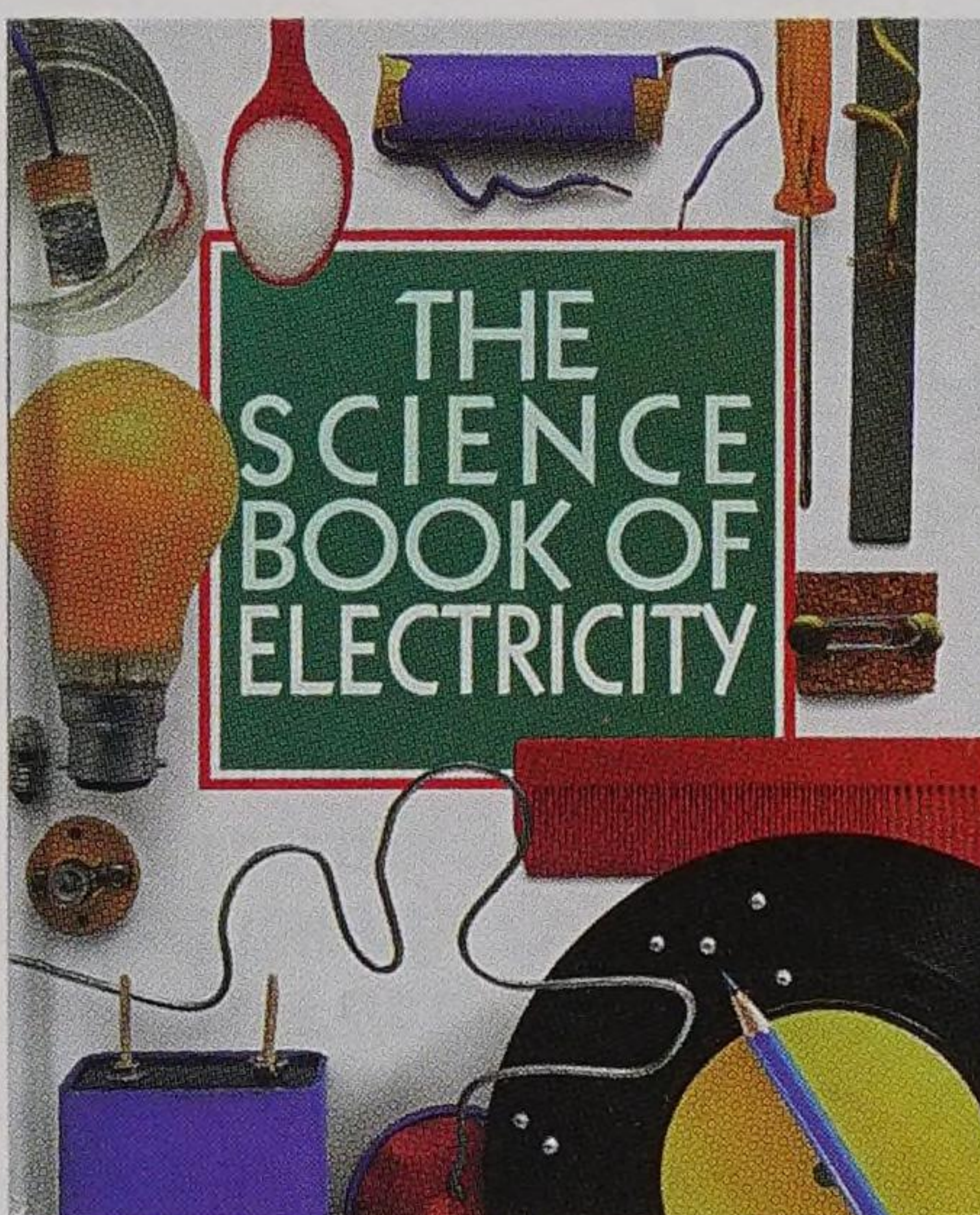
This easy-to-read book features exciting color graphics. It's a stimulating introduction to the basics of electricity.

Paperback, 32 pages.

Level: 5th Grade-High School

**D751054—\$6.95**

**10 for \$62.60**

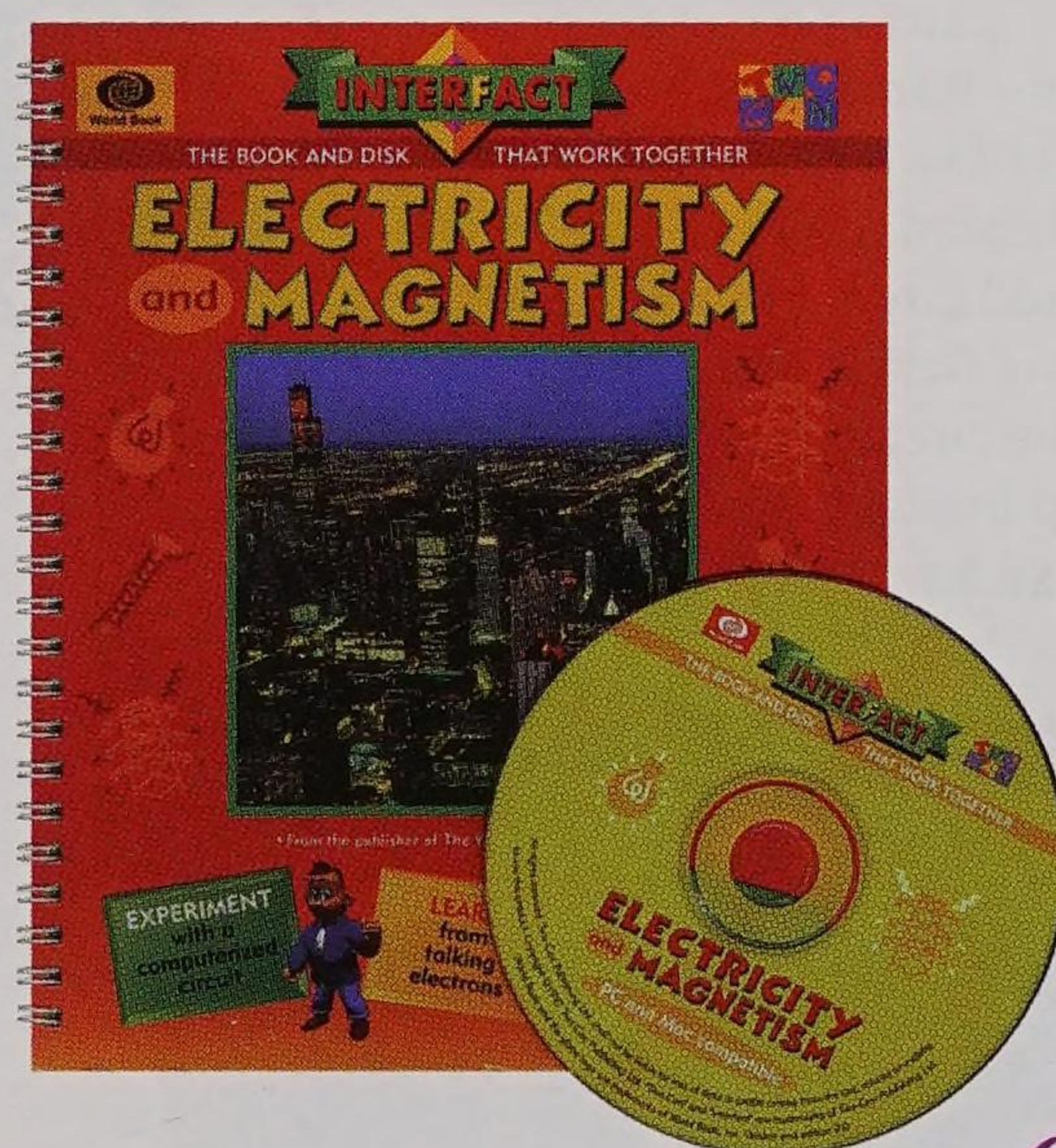


## THE SCIENCE BOOK OF ELECTRICITY

This exciting book will show your students how to bend a stream of water without touching it; make a light switch from cork, thumbtacks, and a paper clip; split the hydrogen and oxygen gases in water; and much more. By following the simple steps of each experiment, students can learn basic principles of science and apply them to the world around them. Hardback, 29 pages.

Level: Intermediate

**D756065—\$9.95**



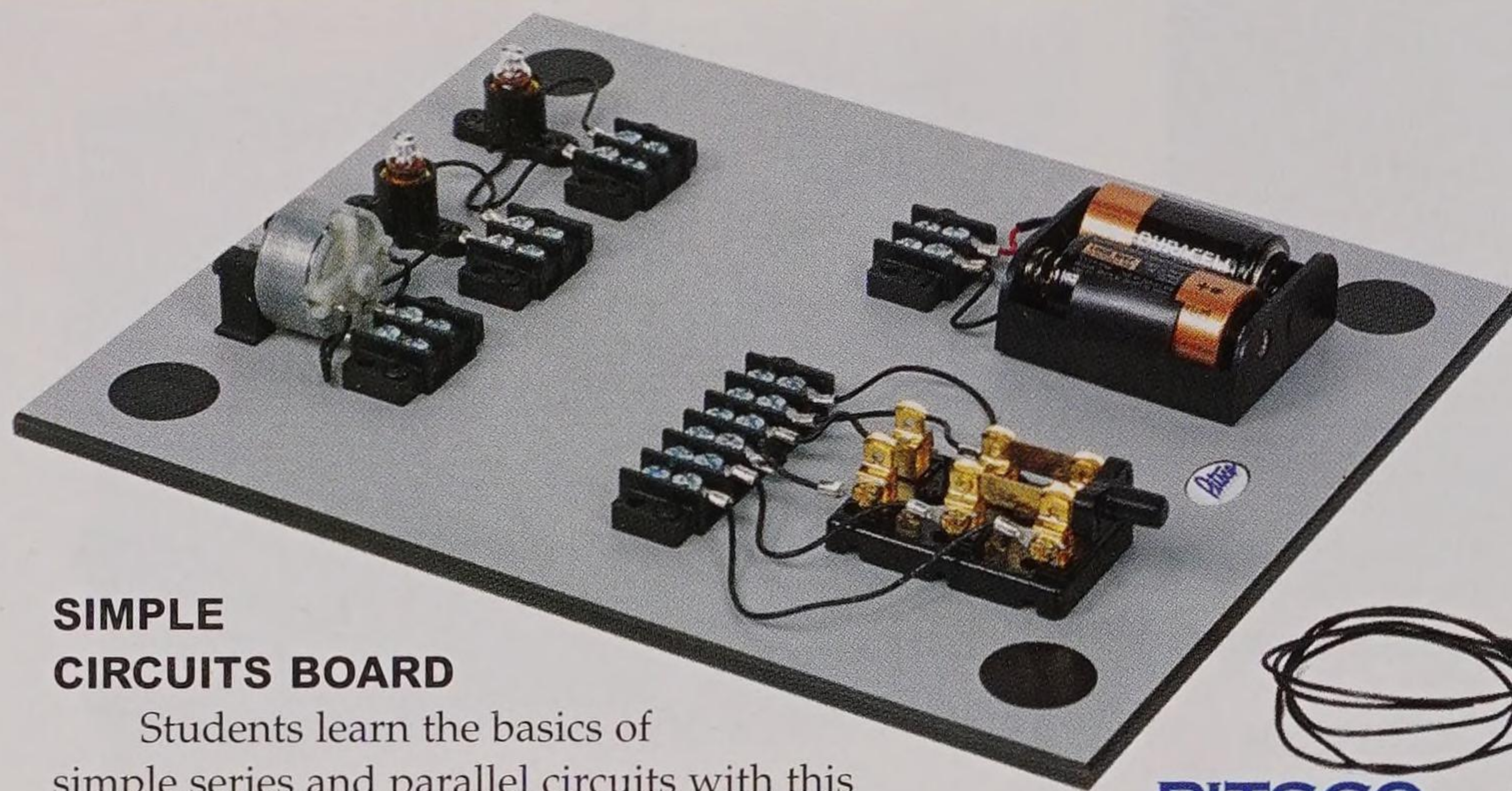
## ELECTRICITY AND MAGNETISM BOOK AND CD-ROM



Learn about magnets, polarity, circuits, batteries, and much more with this fantastic fully-illustrated book. Then insert the CD-ROM in your Mac or PC computer, and complete interactive experiments like the computerized circuit and materials conductivity tests. Also learn how electricity is generated and transmitted about the country, and discover the fundamentals of electricity from talking electrons! Ages 7-12.

**D756132 Mac/Win CD-ROM and book—\$15.95**





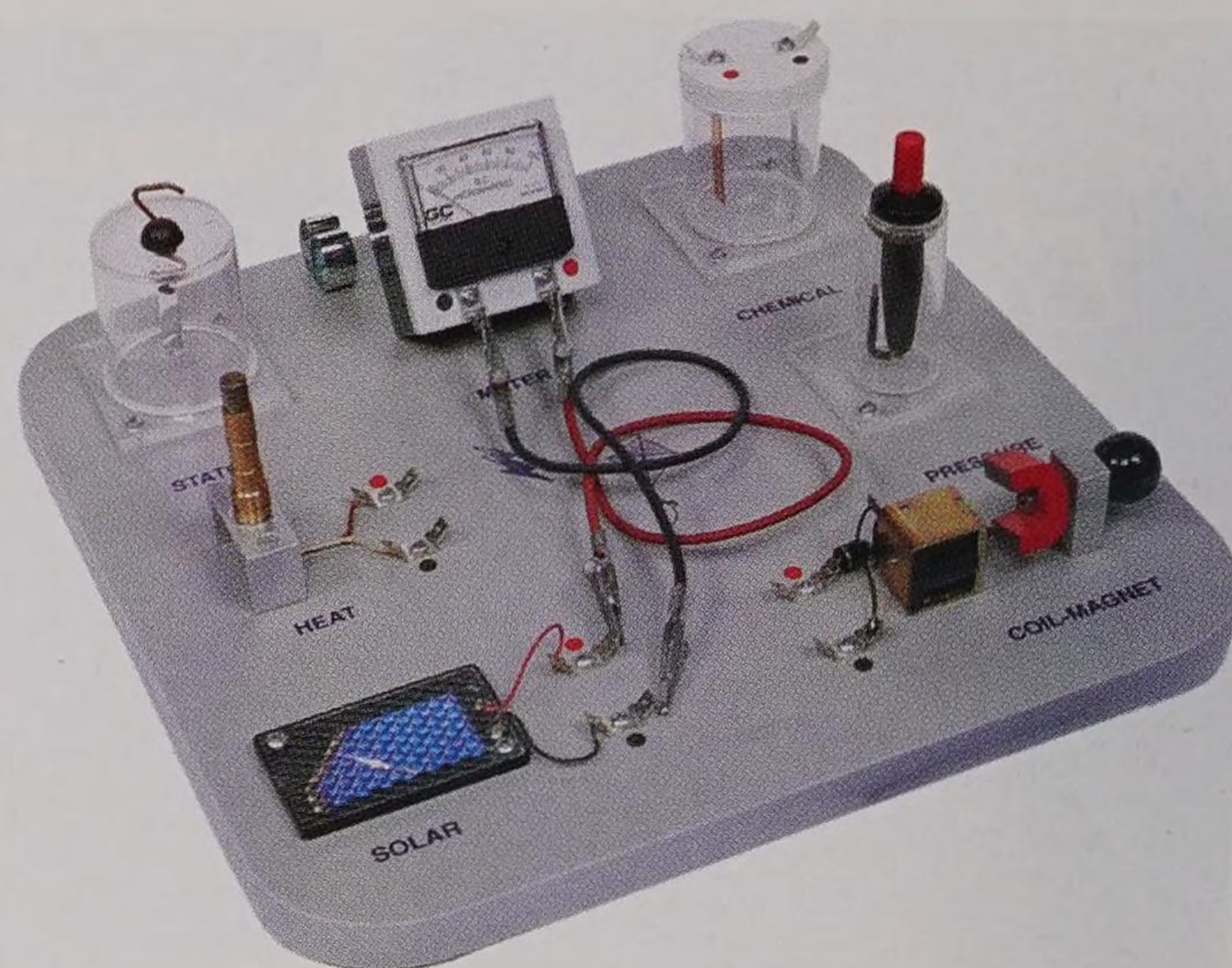
### SIMPLE CIRCUITS BOARD

Students learn the basics of simple series and parallel circuits with this hands-on activity board. Comes with a double-pole, double-throw switch, a DC motor, two lights, and a DC power supply (includes two C batteries).

Components are connected with screw/clamp-type connectors and included jumper wires.

Unit is approximately 12" x 15".

**D754535—\$119**



### WAYS TO MAKE ELECTRICITY DEMONSTRATOR

**PITSCO**  
INNOVATIVE EDUCATION

This innovative activity board demonstrates six ways that electricity can be produced – solar, heat, static, magnetic induction, pressure, and chemical. A built-in meter measures the current produced.

The six current-producing devices and meter are mounted on a 3/4" x 14" x 14" laminated board. Large spade terminals make it easy to connect the devices to the meter. Includes test leads with alligator clips and instructions.

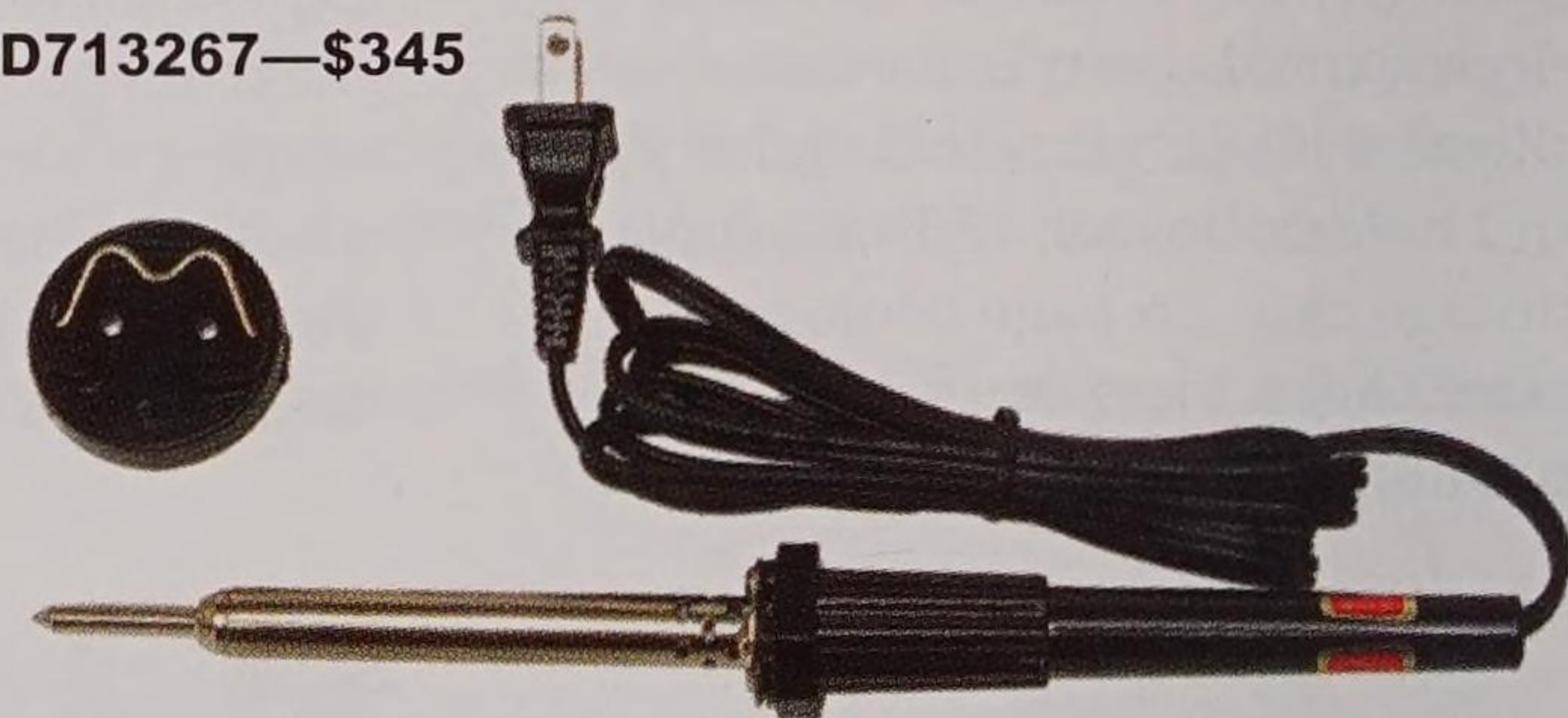
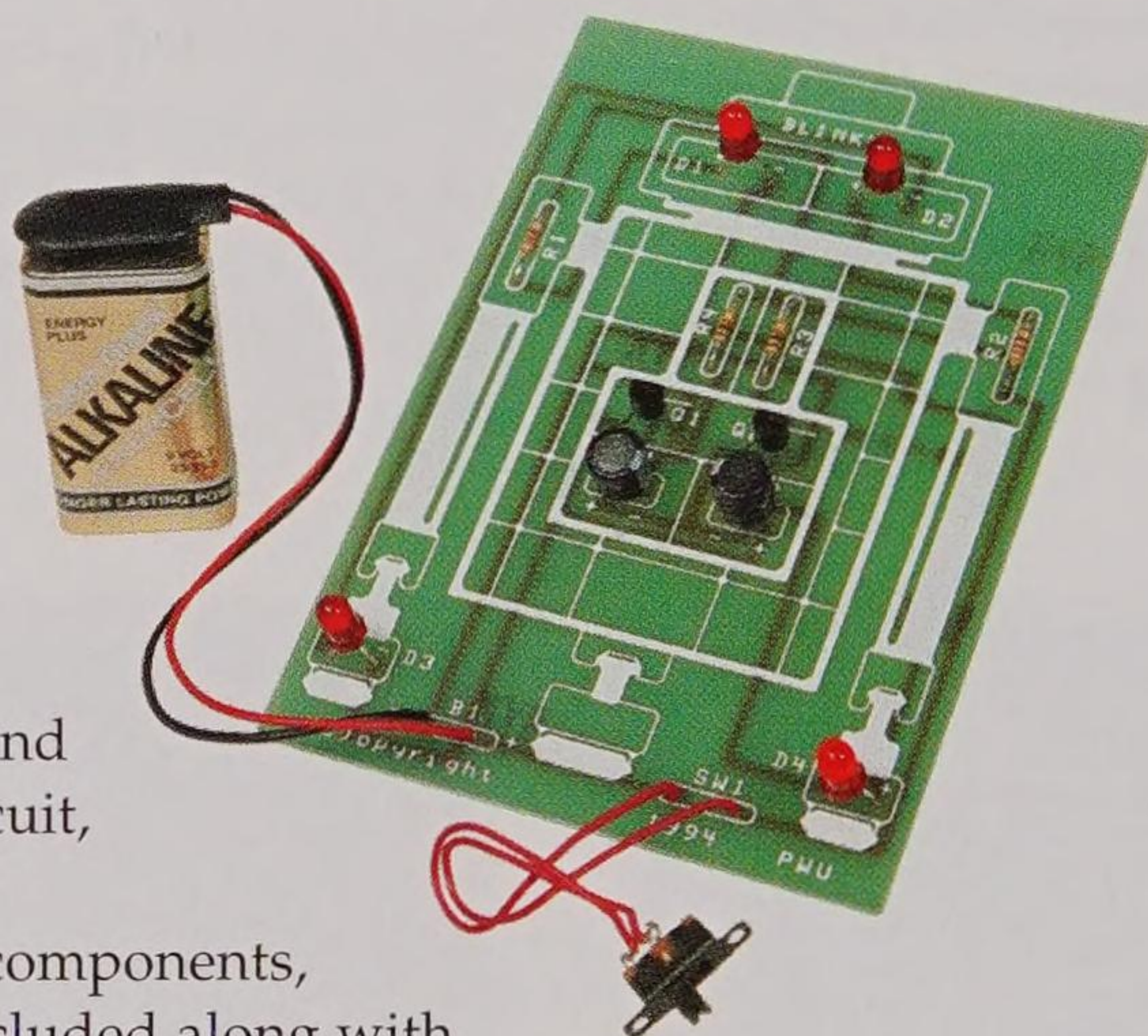
**D713267—\$345**

### BLINKY ROBOT KIT

**PITSCO**  
INNOVATIVE EDUCATION

Students place electronic components and learn soldering skills with this hands-on circuit board kit. By placing a variety of components – transistors, capacitors, LEDs, and resistors – and soldering them in a functional circuit, students build a robot board with intermittently flashing LEDs. All components, including the circuit board, are included along with step-by-step instructions. Battery not included.

**D713294—\$6.95**



### SOLDERING PENCIL

Compact, efficient, and featherweight. Stainless steel construction with a heat-resistant handle. Twenty-five-watt soldering iron develops up to 720°F. Narrow diameter gets into tight places. Replaceable nickel-plated tip for longer life. Includes convenient wire stand and instructions. UL approved. Includes a hot knife tip to cut through plastics.

**D750112—\$13.95**

### SOLDER

60/40 rosin core solder. .032 diameter, comes in 1/2-ounce tube dispenser.

**D750787—\$3.95**



### ELECTRONICS LAB KITS

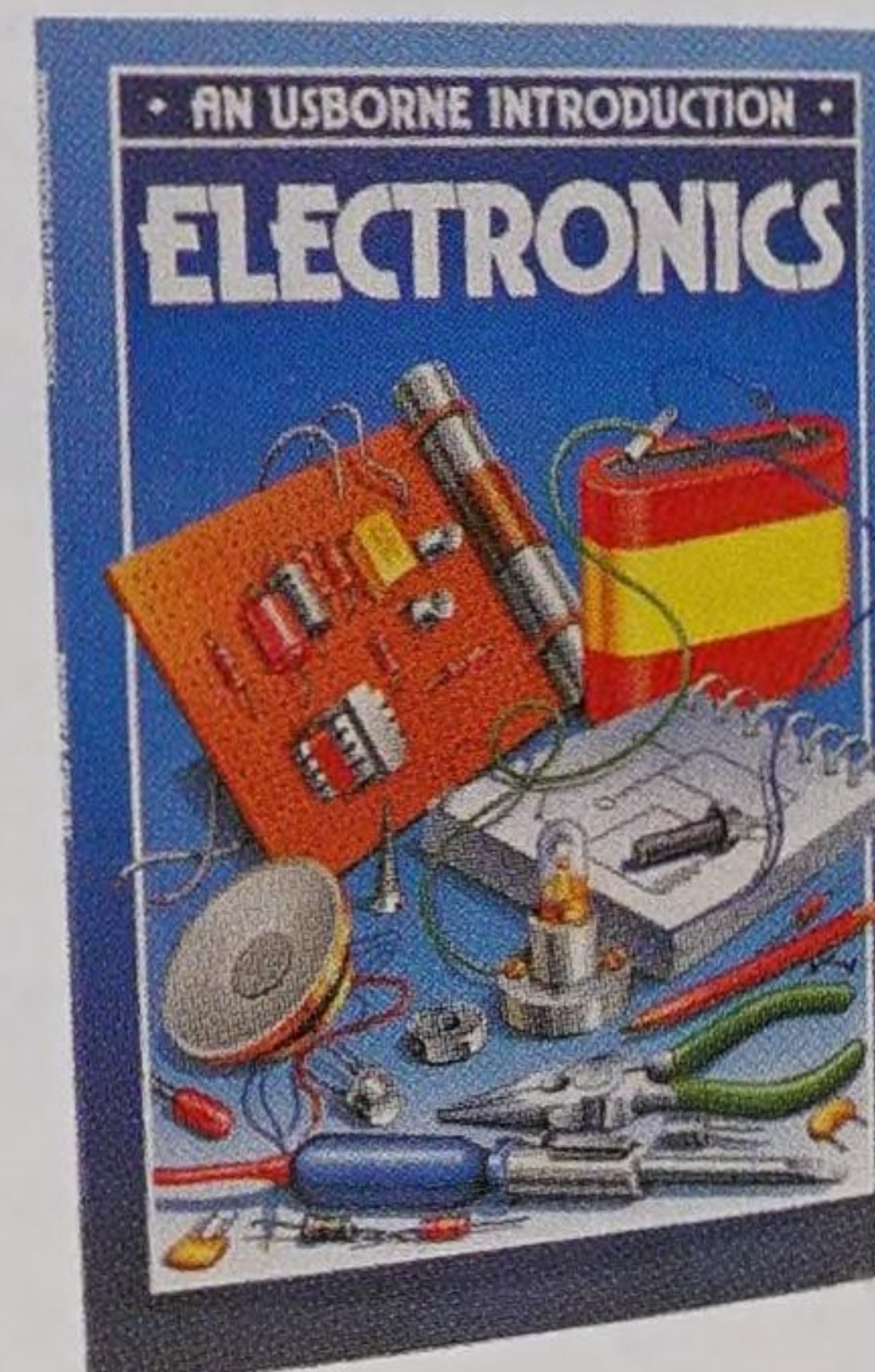
Students work and learn their way through exciting, hands-on electronics experiments. They'll build great projects like burglar alarms and automatic night-lights. *Mr. Circuit Lab I* is an introductory-level kit, while *Mr. Circuit Lab II* is more advanced, delving into digital electronics. Kits contain excellent manuals, breadboards, and electronic components.

**D750162 Mr. Circuit Electronic Lab I—\$24.95**

**D751119 Mr. Circuit Electronic Lab II—\$39.95**



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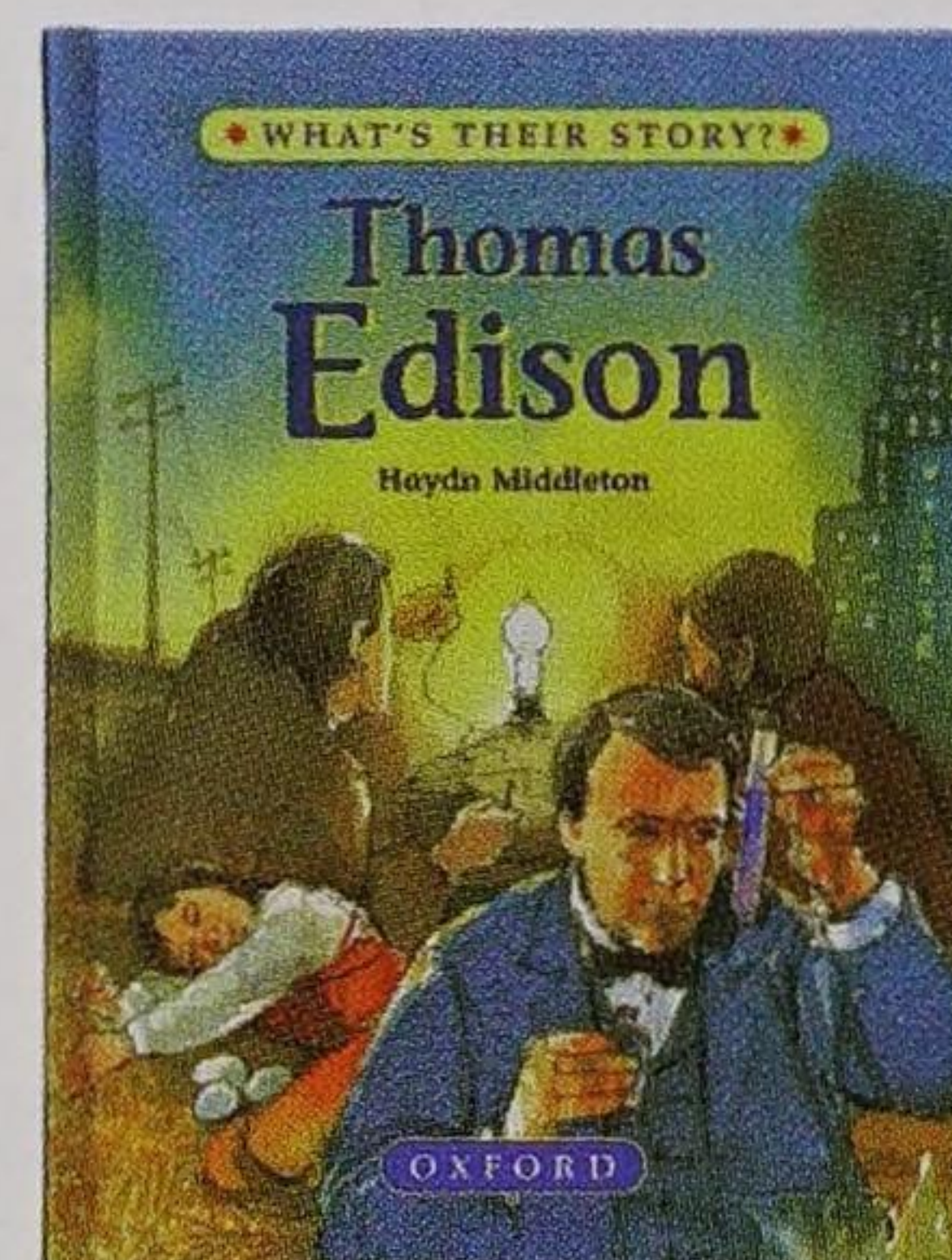


## USBORNE: ELECTRONICS

Lively step-by-step projects and colorful illustrations give the reader practical skills in understanding major principles of electronics. Many hints and tips are included to help beginners identify components, solder, read circuit diagrams, and test projects. Paperback, 35 pages.  
*Level: Middle School-High School.*

**D751089—\$7.95**

**10 for \$71.60**



## WHAT'S THEIR STORY? THOMAS EDISON

Here's an exciting, fully illustrated biography that will hold the attention of young readers. More than any other individual, Thomas Edison was responsible for introducing the modern age of electricity. Besides pioneering the first commercial electric light and power system, he also invented the phonograph, the microphone, and an early movie camera. This gripping story is one of determination, disappointment, and triumph. Hardback, 30 pages.

*Level: Intermediate-Middle School*

**D756080—\$15.55**

## SCIENCE FAIR PROJECTS WITH ELECTRICITY & ELECTRONICS

Most good science students enjoy the excitement and experience of competing in science fairs. This book contains 40 fantastic projects that explore electromagnetic forces, static electricity, current flow, motors, resistance and capacitance, electricity generation, solid-state electronics, and frequency energy. This book features safety-minded projects that will impress classmates, parents, and science fair judges. "What If" questions follow each project. Paperback, 95 pages.

*Level: Middle School*

**D756118—\$9.95**

## SCIENCE FAIR PROJECTS: ENERGY

What better place to look for a science fair project than in a demonstration of energy? Contained in this book are complete, simple, illustrated instructions for more than 50 great experiments that deal with streams, storms, fossil fuels, how the body turns food into energy, and much more. The greatest form of energy is – student curiosity. This book will help satisfy some of it! Paperback, 95 pages.

*Level: Middle School*

**D756119—\$9.95**

## DESIGNS IN SCIENCE: USING ENERGY

*Using Energy* introduces various forms of energy, from heat and light to electrical and chemical energy. Topics covered are solar cells and photosynthesis, energy sources and generation, and insulation and energy conservation. Examples are from both the natural and human-made world. Hardback, 48 pages.

*Level: Intermediate-Middle School*

**D752305—\$16.65**

## EDISON: MULTIMEDIA LAB FOR TEACHING AND LEARNING ELECTRICITY AND ELECTRONICS

*Edison* is the fun way to learn electricity and electronics! This unique software environment enables teachers and students to use multimedia screens, virtual instruments, and animation to create, test, and repair circuits. Build a circuit and watch it go to work immediately (if it's correctly constructed)! Try the many experiments and problems that come with the software, or create your own. *Edison* comes in three different versions of increasing complexity.

*Level: Intermediate-High School*

**D753082 Edison DC Windows**

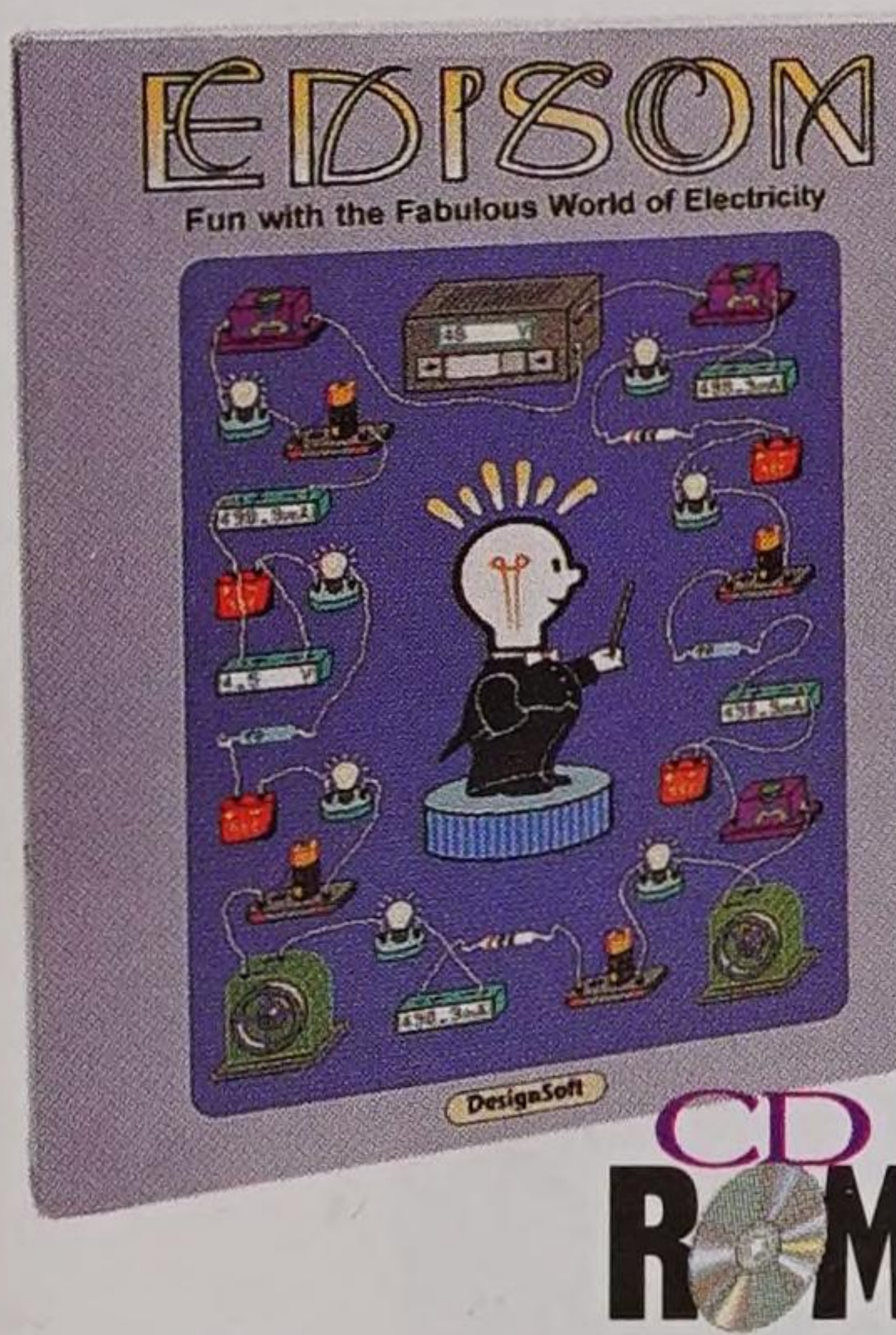
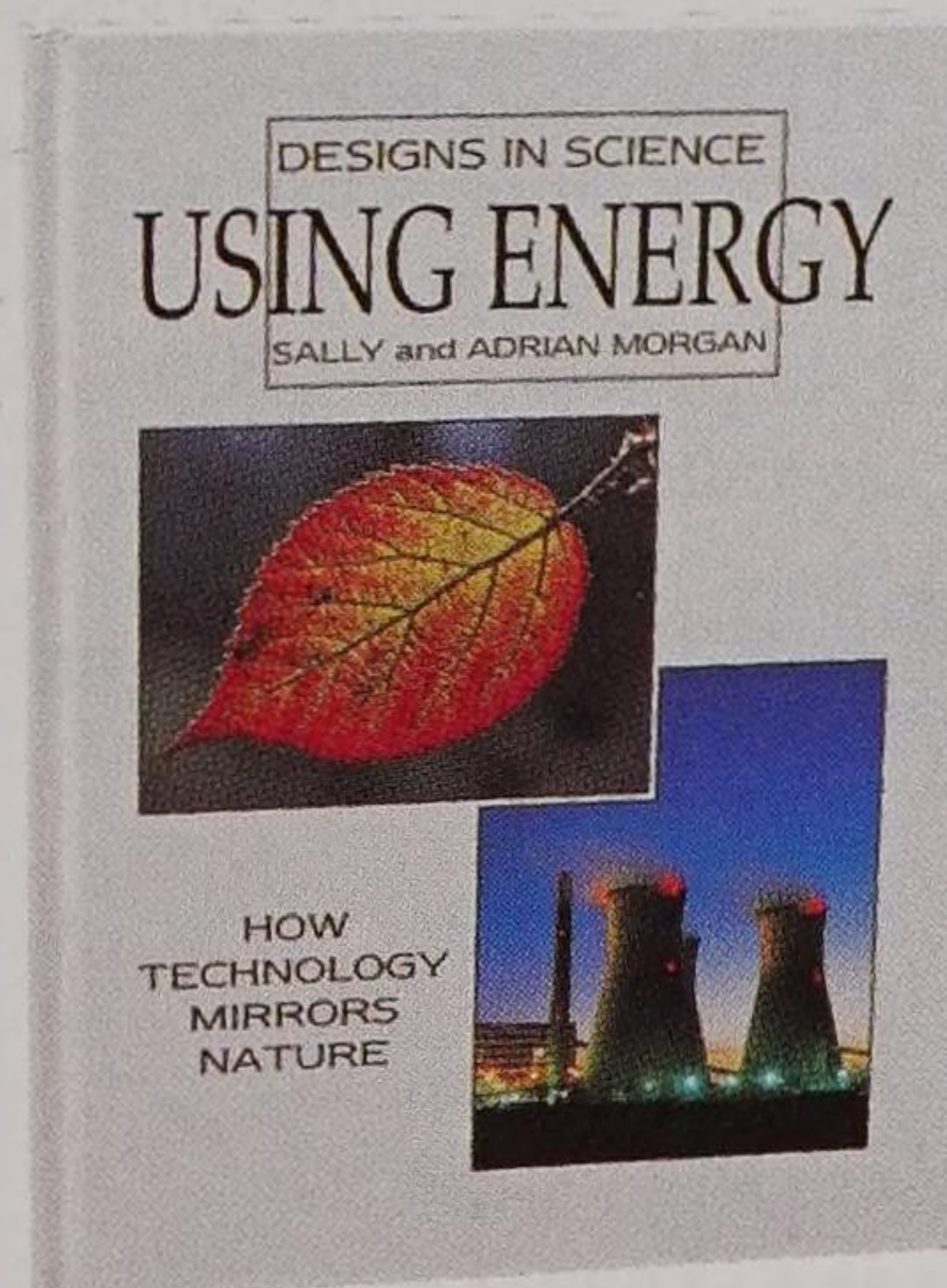
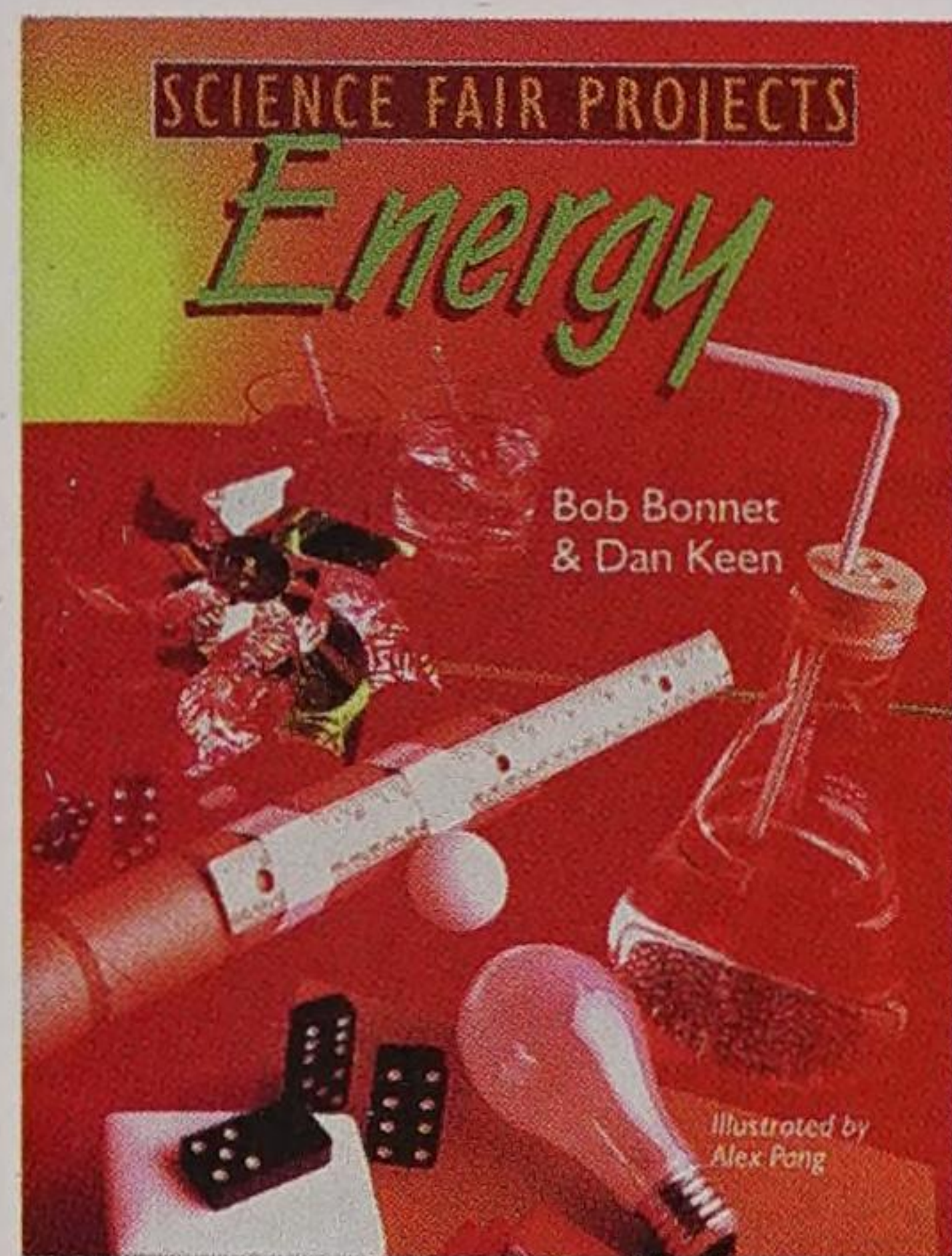
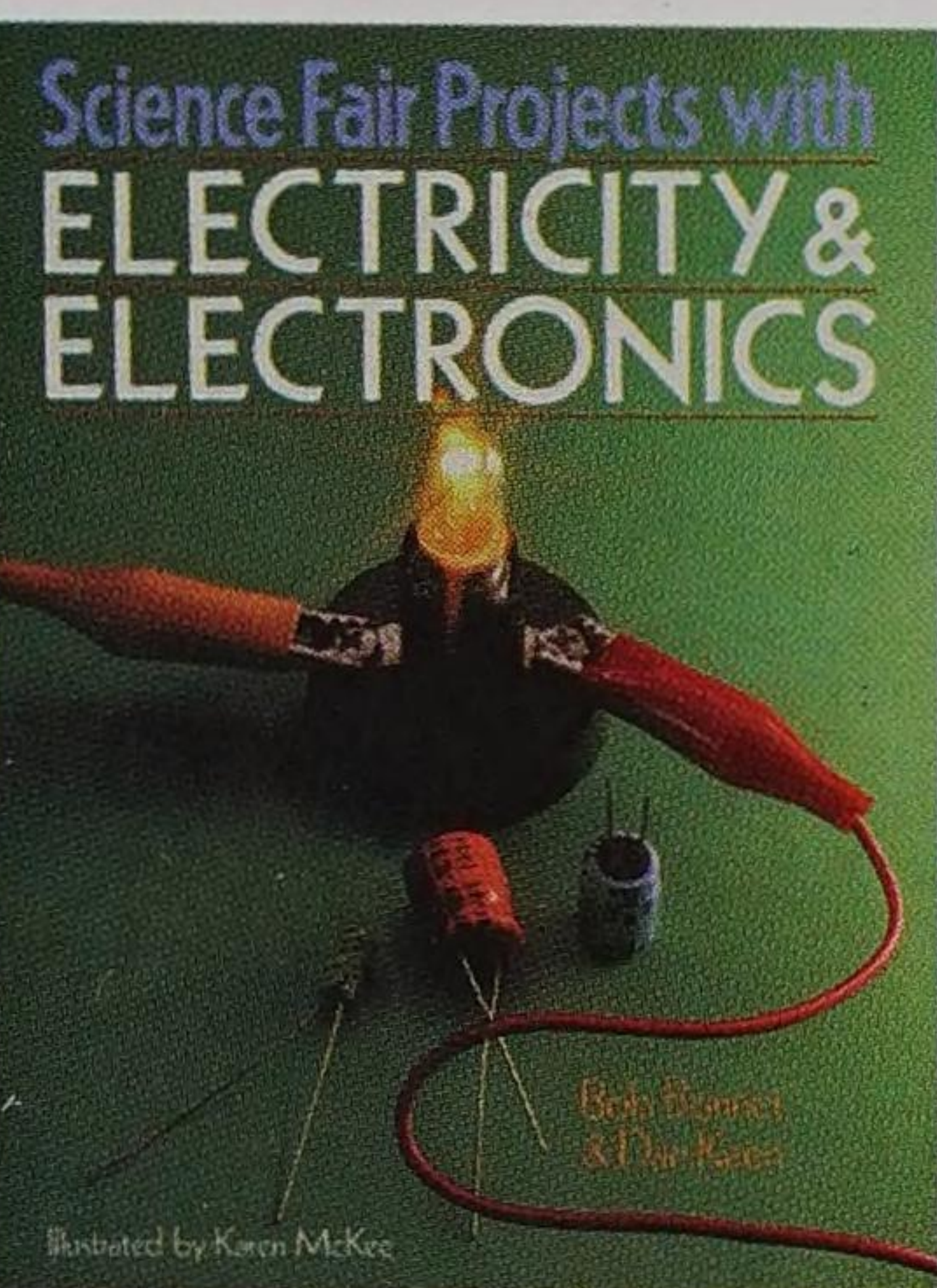
**CD-ROM—\$49**

**D756578 Edison AC/DC 2.0 Windows**

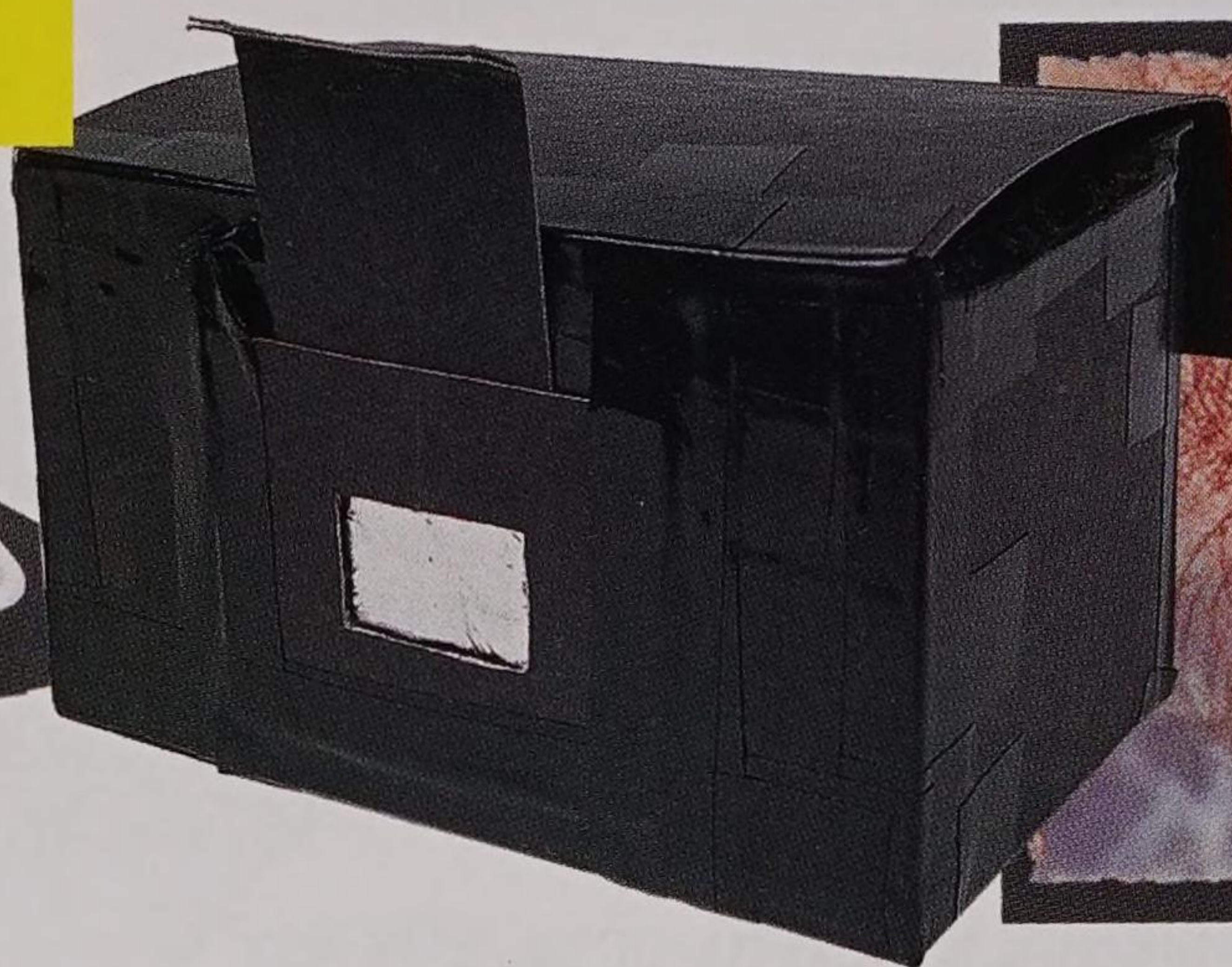
**CD-ROM—\$79**

**D756579 Edison Electronics 3.0 Windows**

**CD-ROM—\$129**



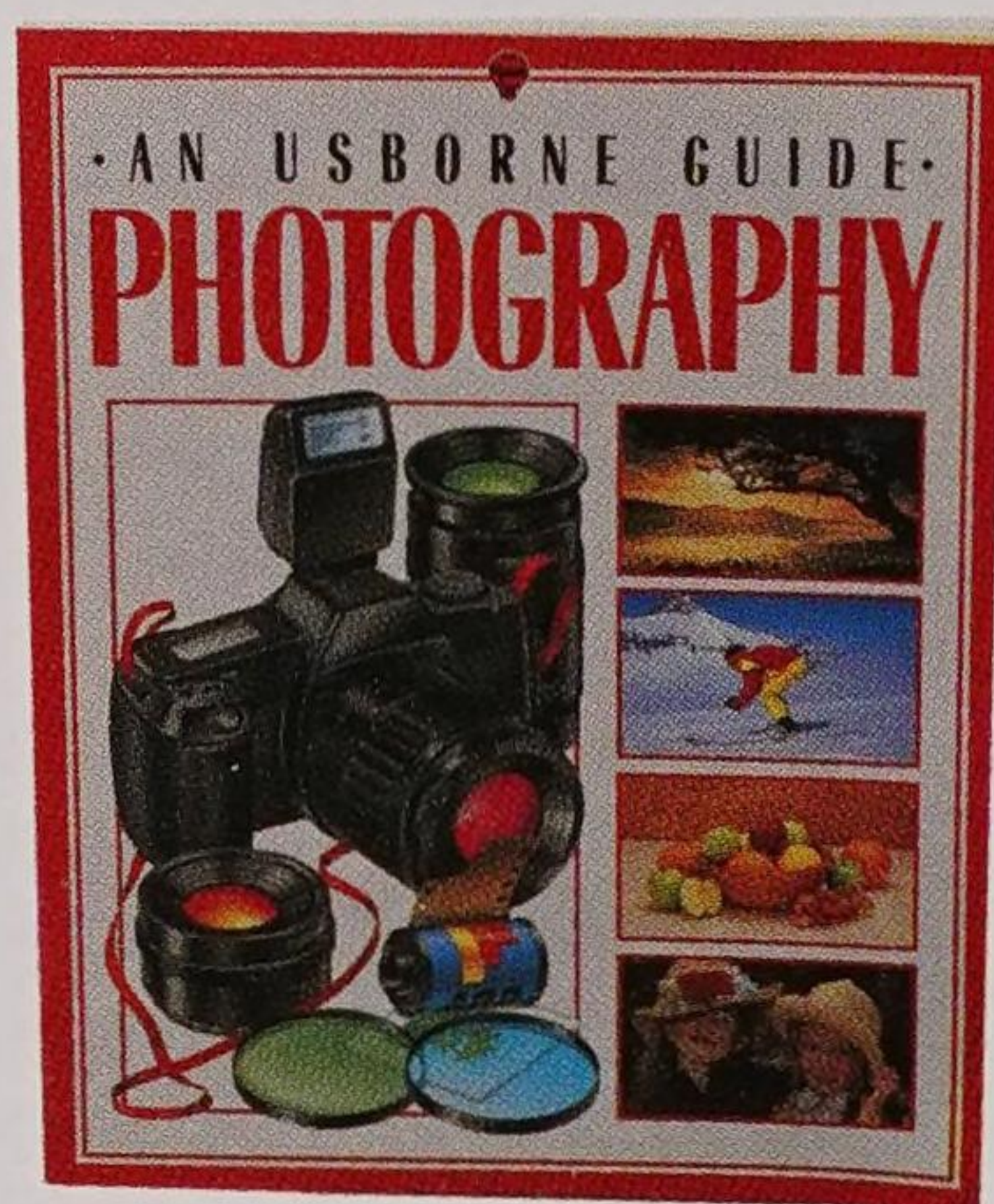


**DA CAMERA PAK****EXCLUSIVE****PITSCO**  
INNOVATIVE EDUCATION

In the spirit of Leonardo da Vinci, students learn the basics of optics by using the camera obscura principle. Students construct simple cameras that mimic the way the human eye sees images. The cameras are then used to take pictures that the students develop. Cameras are constructed from black poster board and use 3-1/2" x 5" print paper. *Da Camera Pak* includes camera construction materials, print paper, darkroom safelight, developing containers, trays, funnels – everything needed for the activity.

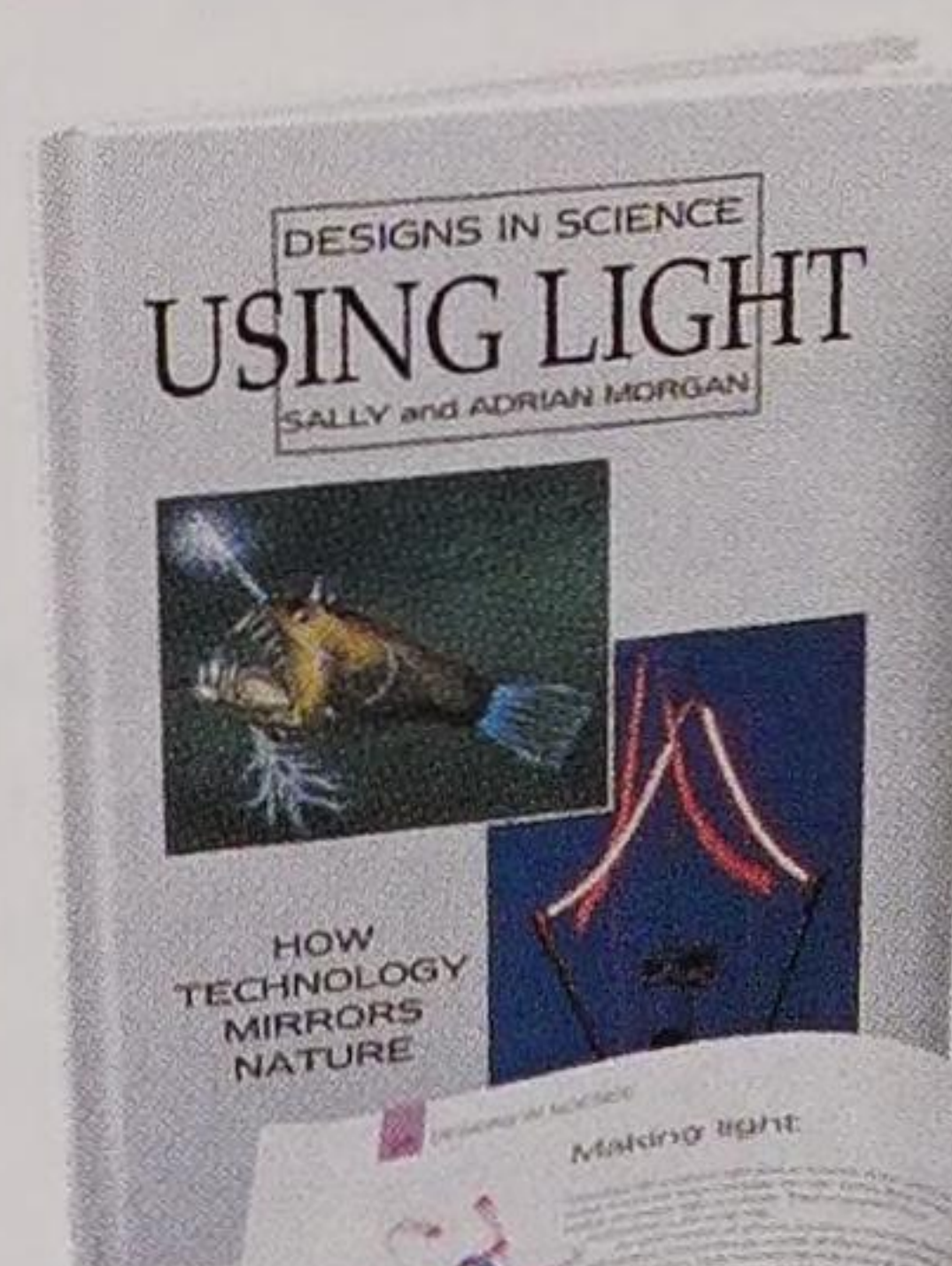
**D990012—\$195****DA CAMERA EXPENDABLES PAK**

Contains construction materials, developing chemicals, print paper, and all other consumable items.

**D990013—\$129****USBORNE: PHOTOGRAPHY**

Packed with tips on the best way to take all kinds of photographs. There is also advice on how to avoid common mistakes and how to cope with difficult lighting conditions.

There are lots of examples of photos you can try, some of them using exciting special effects. Includes information on camera operation, print development, and display mounting. Paperback, 48 pages.

*Level: Middle School-High School***D751597—\$8.95****10 for \$80.60****DESIGNS IN SCIENCE:  
USING LIGHT**

*Using Light* focuses on the physical principle of light, its effects on all living organisms, and its use by cameras and the human eye.

Hardback, 48 pages.

*Level: Intermediate-Middle School***D752308—\$16.65****EYEWITNESS: FILM**

The fascinating history of filmmaking comes alive through this book of photographic essays. It takes the student behind the scene to explore how a set is built, how stunts are performed, how special effects are achieved, how films are edited, and how movies are made. Hardback, 64 pages.

*Level: Intermediate-Middle School***D752220—\$19****Order Online!****[www.pitsco-legodacta-store.com](http://www.pitsco-legodacta-store.com)**





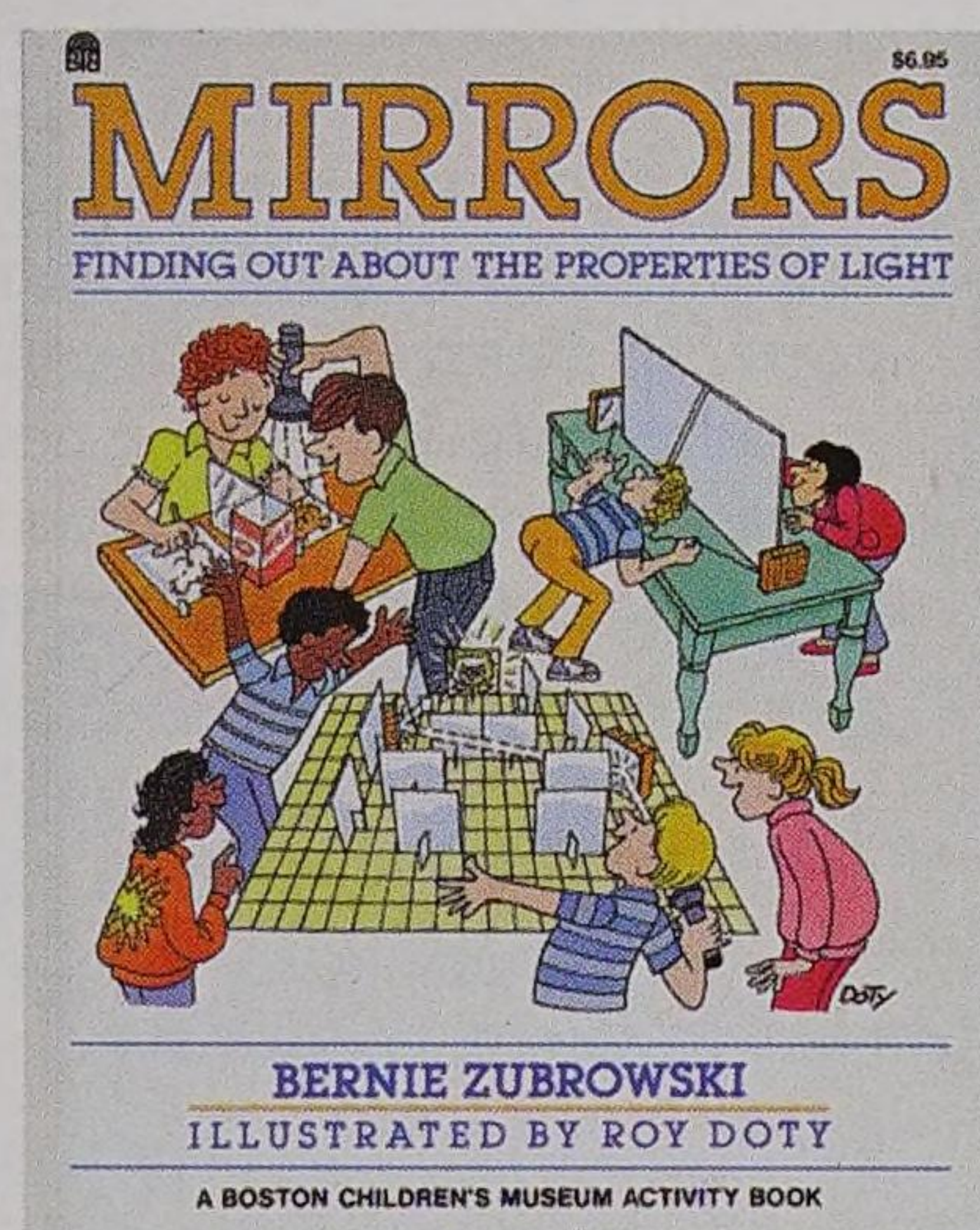
## PITSCO KALEIDOSCOPE KIT

Students can build kaleidoscopes and experience dazzling illusions of their own making. Students place doodads (a very technical term for assorted colorful pieces) in the illusion chambers and observe the dynamic visual effects as they rotate the barrel of their kaleidoscopes. They can even reopen the illusion chambers and drop in their own objects of different colors and shapes.

All the necessary parts are included: plastic tube, end pieces, mirrors, and a good supply of doodads.

**D755050—\$14.95**

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## MIRRORS

Bernie Zubrowski

A wonderful new way to discover the properties of light – *MIRRORS!* This Boston Children's Museum activity book cleverly uses mirrors for making all kinds of fun items. With just a few mirrors and some flashlights, students can make a copy machine, wonderful games, sculptures, and magical illusions. Bernie Zubrowski has designed more than 50 experiments, which are perfect for school science projects and for understanding light in the real world. Paperback, 96 pages.

*Level: Intermediate-Middle School*

**D756128—\$6.95**

## MICROSCOPES AND MAGNIFYING LENSES

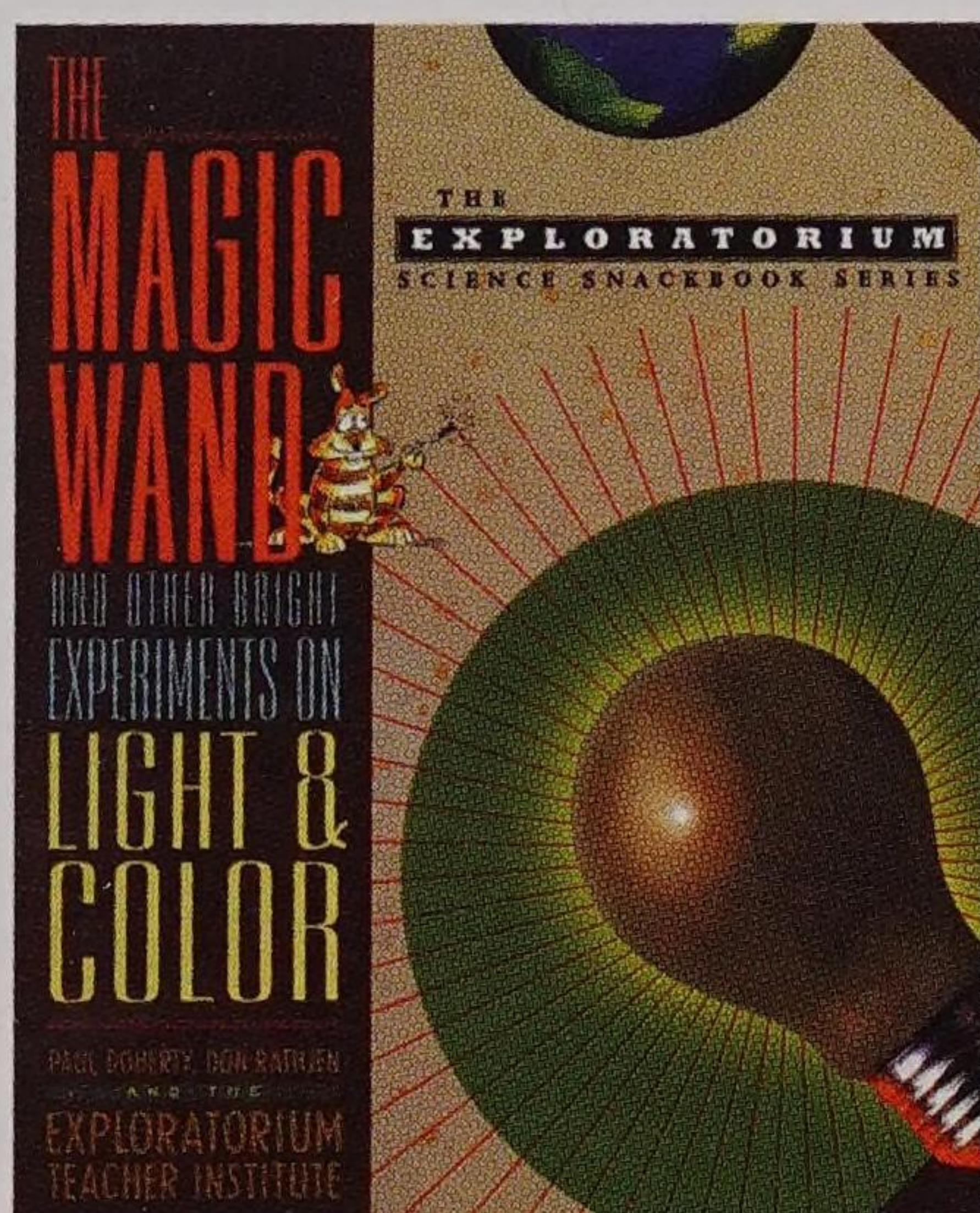
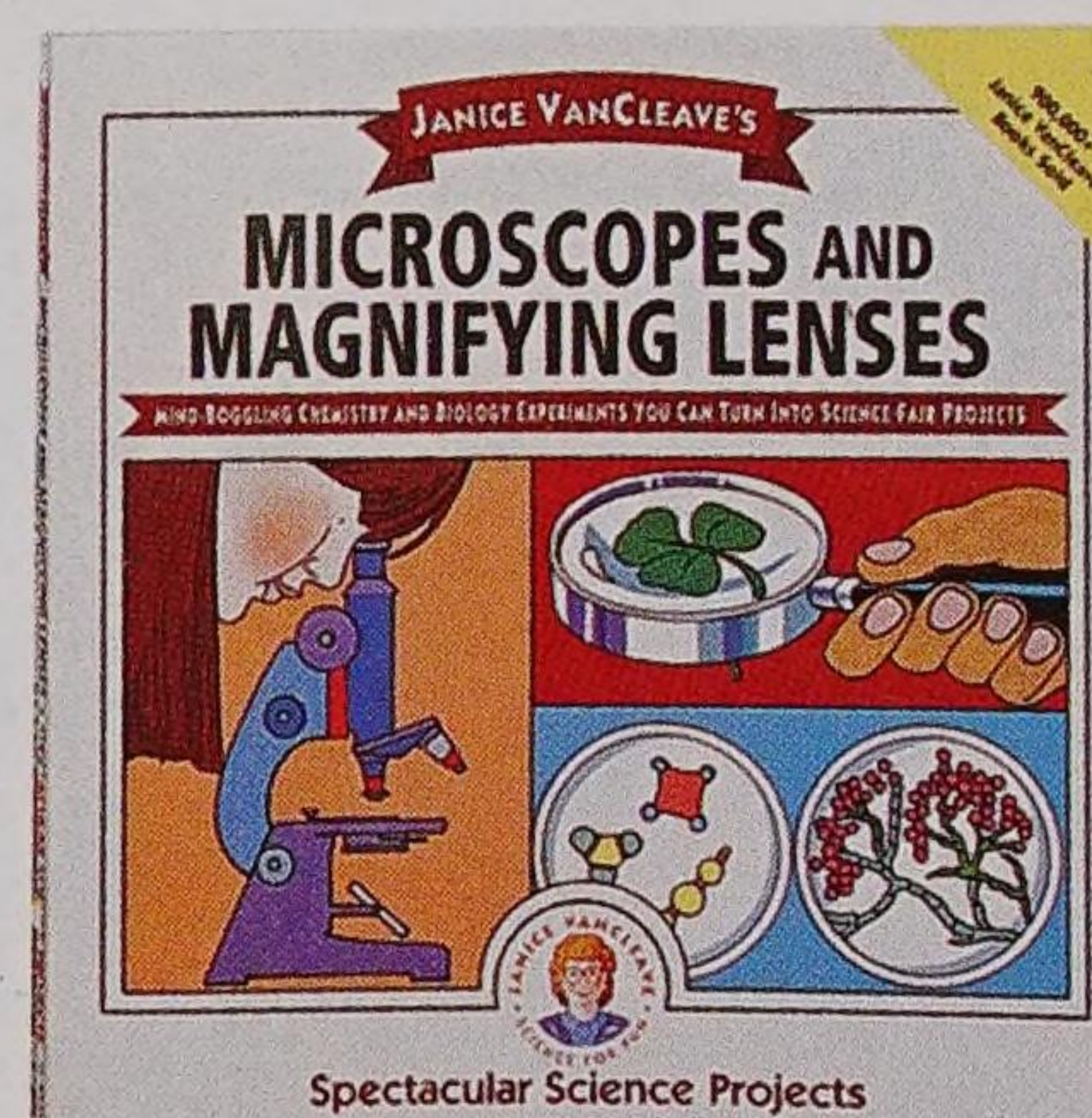
Janice VanCleave

Review this fantastic book from the prolific science author Janice VanCleave.

It is loaded with easy-to-do, hands-on experiments aimed at answering the most-asked questions about science. Paperback, 100 pages.

*Level: Intermediate-Middle School*

**D715807—\$10.95**



## THE MAGIC WAND AND OTHER BRIGHT EXPERIMENTS OF LIGHT & COLOR

Why is the sky blue and the sunset red? With this book students can solve this mystery and many other mysteries of light and color. This book contains 25 "snack-sized" experiments with light and color based on exhibits at the San Francisco Exploratorium Museum. Paperback, 125 pages.

*Level: Middle School*

**D756069—\$10.95**



# LASERS!

## LASER LIGHT SHOW SET

**PITSCO**  
INNOVATIVE EDUCATION

Dancing, swirling, pulsating laser light will captivate your students! Your students have probably seen a laser light show at concerts, but now they can learn about lasers, basic circuitry, and soldering skills by building and experimenting with the Pitsco *Laser Light Show*.

By varying the speed and direction of two adjustable motorized mirrors, students can use a laser to project intricate patterns on the included viewing board or wall. The size of the projection can be changed by positioning the kit farther from the screen or wall. Longer distances (which means bigger images) can be obtained by using more powerful classroom-type lasers.

The kit includes everything needed – motors, round mirrors, circuit board, wiring, control switches, hook-and-loop fastener, batteries, and an AC adapter. The light show can be purchased with or without a laser so you can use your existing classroom laser or a laser pointer.

### D754149 Laser Light Show Set

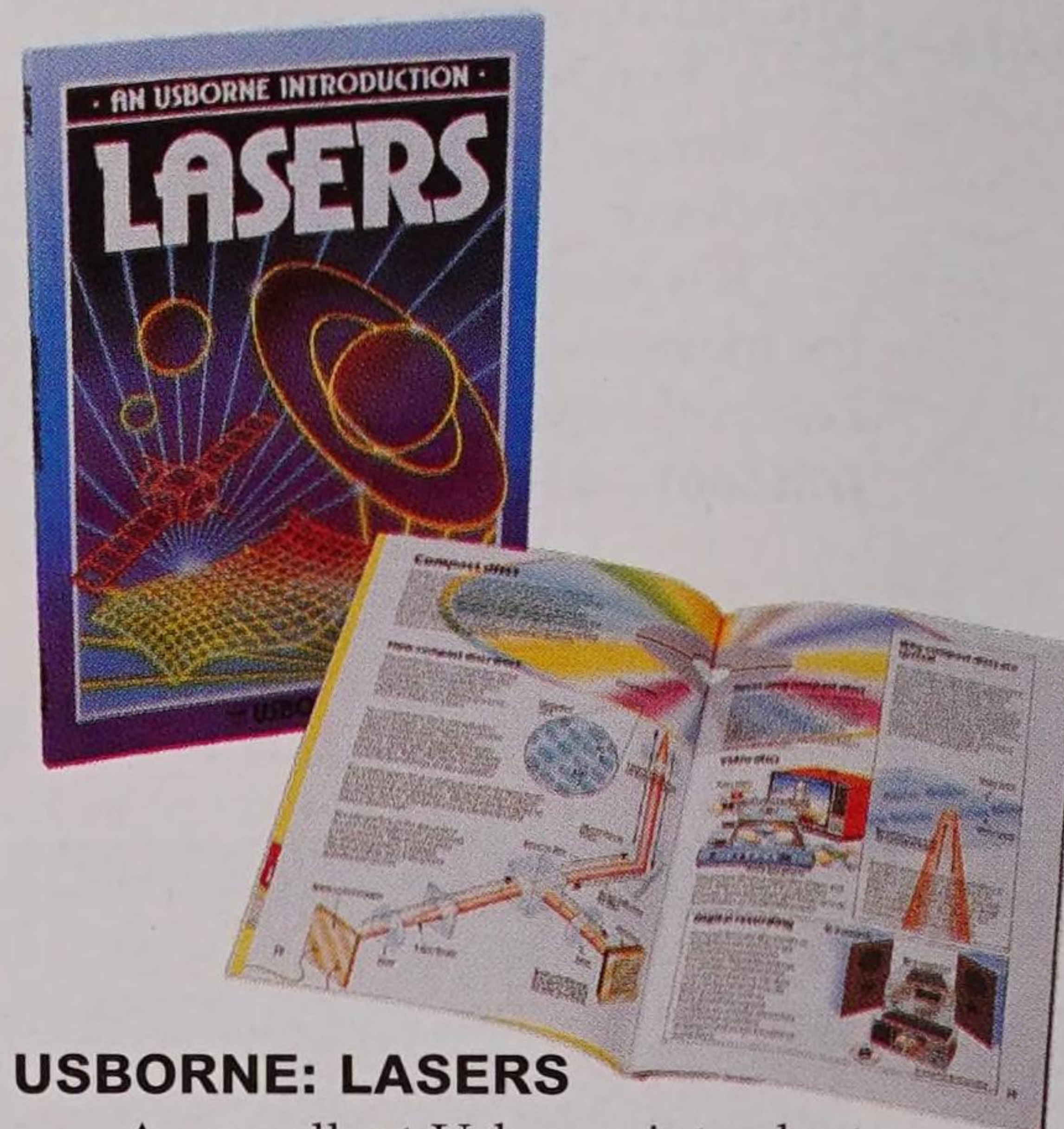
(with 4 mW laser)—\$145

### D715695 Laser Light Kit

(without laser)—\$75

### D715694 Laser Diode Module

(4 mW output)—\$95



## USBORNE: LASERS

An excellent Usborne introductory reference on one of the most fascinating, versatile facets of the new technology. Lasers now cut metal, cure diseases, project 3-D images, transmit information, store data, play hi-fi music, and are an integral part of many weapon systems.

This book explores these ideas and others in clear language and color illustrations. Paperback, 48 pages.

Level: Middle School-High School

D750954—\$7.95

10 for \$71.60

**Call Toll Free!**  
**800-362-4308**



## USES OF THE LASER ARE ALL AROUND US

**CLOTHING INDUSTRY**  
Clothing stores are beginning to use a laser to scan your body to determine your exact size. You can then pick out a style and material and a computer uses another laser to cut out the material. When assembled you have an outfit that is a "perfect fit".

**FUSION ENERGY**  
At the University of Rochester, NY, huge lasers are focusing their energy on tiny glass balls filled with hydrogen isotopes. The heat and pressure causes the hydrogen to undergo fusion and release vast amounts of energy. The goal is to achieve a point where the energy released equals the energy required to power the lasers.

**INTERFEROMETRY**  
This is a type of double exposure hologram that can reveal changes between two events. These microscopic differences are used to reveal defects in everything from auto tires to computer circuits destined for space satellites.

**ENGRAVING**  
Everything from tombstones to fine jewelry are being engraved using lasers. A computer controls two moving mirrors that direct the laser up or down, and left or right. Even photographic images can be engraved using this process.

**RETAIL**  
Lasers are used in retail stores to scan the products you are purchasing. Scanners are also used to take inventory of the products on the shelf and to order products that are needed.

**ENTERTAINMENT**  
Music CD's use a laser to bring you the crisp, clear music you listen to on the radio or your home CD player. You may have also visited a laser light show or put a CD-ROM into a computer to play a computer game.

**ADVERTISING**  
New "holodorable" allowed lasers to patterns and words are being used by to promote products. Lasers have been used for creating decorations and holiday season.

**ATOMIC STRUCTURE**  
A strong UV laser is used to pump a stream of atoms into the laser structure itself. When from the laser into the high-speed atoms the electrons are at higher energy levels, absorbing the energy and changing the structure of the atom being refined.

**GUN SIGHTS**  
Visible laser diodes are mounted to guns for a specific range. The trigger is pushed and a hole where the dot was. Invisible sighting weapons are preferred by the military because their targets are not being shot.

The principle of operation for all lasers is essentially the same. Lasers must have three main parts: a power source, an amplifying medium, and a feedback mechanism.

**How Does A Laser Work?**

**At rest.**

The energy source provides the energy to start the release of photons of light. This energy is absorbed into the active medium.

The energy drives the atoms of the medium to a higher energy state. By "pumping" light energy into the medium, the total number of high energy atoms exceeds the number of low energy atoms. When this occurs it is called a population inversion.

As photons of light energy attempt to return to their lower energy state a chain reaction known as stimulated emission releases more photons. These start to become focused by the mirrors.

At some point the energy levels of these reflected waves of energy become strong enough to pass through the weaker mirror. You now have a laser beam.

eLAB Energy, Work, Power . . . . .	46-47
eLAB Renewable Energy . . . . .	48-49
Ray Catcher . . . . .	50-51
Pneumatics . . . . .	54-55

### LASER POSTERS

Laser is quickly becoming a common word in today's classroom. Pitsco offers you five great posters: "Uses of the Laser Are All Around Us," "Don't Risk Your Sight, Learn Laser Safety," "History Of The Laser," "How Does A Laser Work?," and "LASERS: A Spectrum Of Career Opportunities." Not laminated. Size: 17" x 22".

- D756100 LASERS: A SPECTRUM OF CAREER OPPORTUNITIES
- D756101 HOW DOES A LASER WORK?
- D756102 LEARN LASER SAFETY
- D756103 USES OF THE LASER
- D756104 HISTORY OF THE LASER
- INDIVIDUAL POSTERS—\$5.95
- D756105 COMPLETE SET—\$24.95

## LASERS

### A Spectrum Of Career Opportunities

Medicine

Surveying

Holography

Construction

Telecommunications

Retail Scanners

Entertainment

- The medical field uses lasers for arthroscopic surgery, cataract surgery, and retina reattachment.
- Surveyors use lasers to measure distance.
- Holography uses lasers to make difficult-to-copy photos for credit cards, identification, and retail items.
- Construction uses lasers for leveling.
- Telecommunications uses fiber optic telephone and network services.
- Retail stores use laser scanners for product UPC identification.
- Lasers entertain us with music CD's, computer CD-ROMs, video laser discs, and laser light shows.

## DON'T RISK YOUR SIGHT, LEARN LASER SAFETY

- Always Wear Proper Eye Protection.
- Don't Stare Directly Into The Unspread Beam.
- When Redirecting The Beam With A Mirror, Don't Shine It Directly Into Someone's Eyes.
- Never Look Down The Barrel Of The Laser Or Down The Barrel Of The Unspread Light.
- View The Unspread Beam From The Side.

## History Of The Laser

**1916** Stimulated emission proposed by Albert Einstein

**1940** Population inversion proposed by V.A. Fabrikant

**1947** Dennis Gabor develops holography

**1954** First maser is developed by J.P. Gordon, H.J. Zeiger, and Charles H. Townes

**1957** Gordon Gould describes an idea for a gas discharge laser and was the first to use the term "laser". He records ideas in his notebook and has it notarized, but does not apply for a patent until 1959

**1958** Townes develops idea for laser and patents the idea

**1960** Theodore H. Maiman develops the first laser using a ruby crystal Helium neon laser (633nm)

**1962** Diode laser (900nm)

**1963** Nitrogen laser (337nm)

**1964** Townes, Basov, and Prokhorov receive the Nobel Prize for physics and the carbon dioxide laser is invented (10.6um)

**1970** Molecular hydrogen laser (100um)

**1971** Dennis Gabor receives the Nobel Prize in physics for holography

**1981** Dr. Arthur Schawlow receives a Nobel Prize in physics for laser spectroscopy

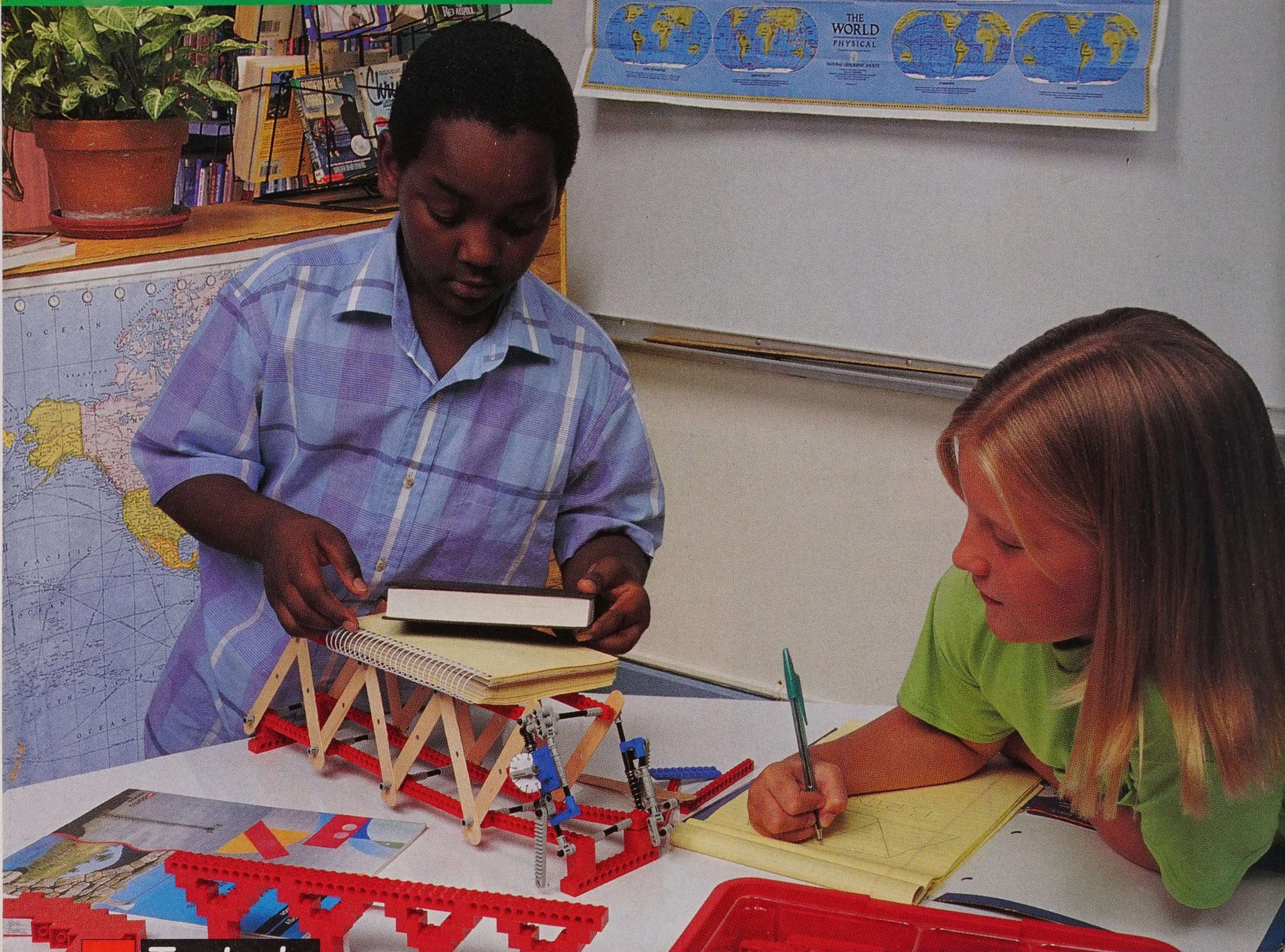
**1984** The X-ray laser is invented and the Altman Holography Method is developed by Thomas C. Altman, a physics instructor at Oswego H.S. in NY

**1987** Gordon Gould wins patent for a gas discharge laser

**1988** Laser atomic traps are invented. They are used to manipulate and study small organisms



# 64 LEGO Structures



**LEGO Technic**

**STRUCTURES SET #979618**

461 elements

**EXCLUSIVE**

This great set expands upon the experiences of the *Primary Towers & Bridges Set* and provides a more in-depth exploration of structures. Students will discover many structure concepts including stability within bridges and towers, forces on structures, and strength of materials.

They discover these concepts by designing and building structures from various materials such as corrugated plastic sheets, studded string, and wooden sticks. Because the materials are low-cost, the models can be destructively tested. Includes:

- Instructions for 20 models
- Force meter – a clever device that students build from LEGO elements. It measures the force placed on a structure.

**D979618—\$74.50**



**FreeFax™ Orders!**  
**888-534-6784**



**EXCLUSIVE**

## STRUCTURES ACTIVITY PACK #909618

The activity pack contains all the information needed by teachers to orchestrate a successful unit with the *Structures Set*. There are 13 copy master worksheets with teacher notes, background information, templates, and one copy of the *Concept Guide: Bridges, Towers, and Other Structures*.

The materials are designed for classroom activities – from exploring and investigating structure concepts to their application in problem-solving activities.

**D909618—\$25**

- LEGO Structures . 64-65
- Primary Towers
- & Bridges . . . . . 66-67
- BridgePak . . . . . 70-71
- Structure Tester . . . . . 72
- TowerPak . . . . . 72

## STANDARDS

These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site:

[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

## THE EXPLORATORIUM GUIDE TO SCALE AND STRUCTURE

This teacher's resource book is full of structural engineering activities and is great for introducing students to structures. Fun, practical activities teach aspiring engineers about structures and scale. Projects include building with straws, clay, and toothpicks; building paper bridges; building domes; and load testing structures. Filled with helpful illustrations and photos of kids doing the activities. Includes teacher tips, discussion points, and extension options. Paperback, 198 pages.

Level: Intermediate-Middle School

**D754466—\$39.95**

## PLASTIC STRAWS FOR STRUCTURES

Use for bridge- and structure-building activities.  
7-3/4" in length.

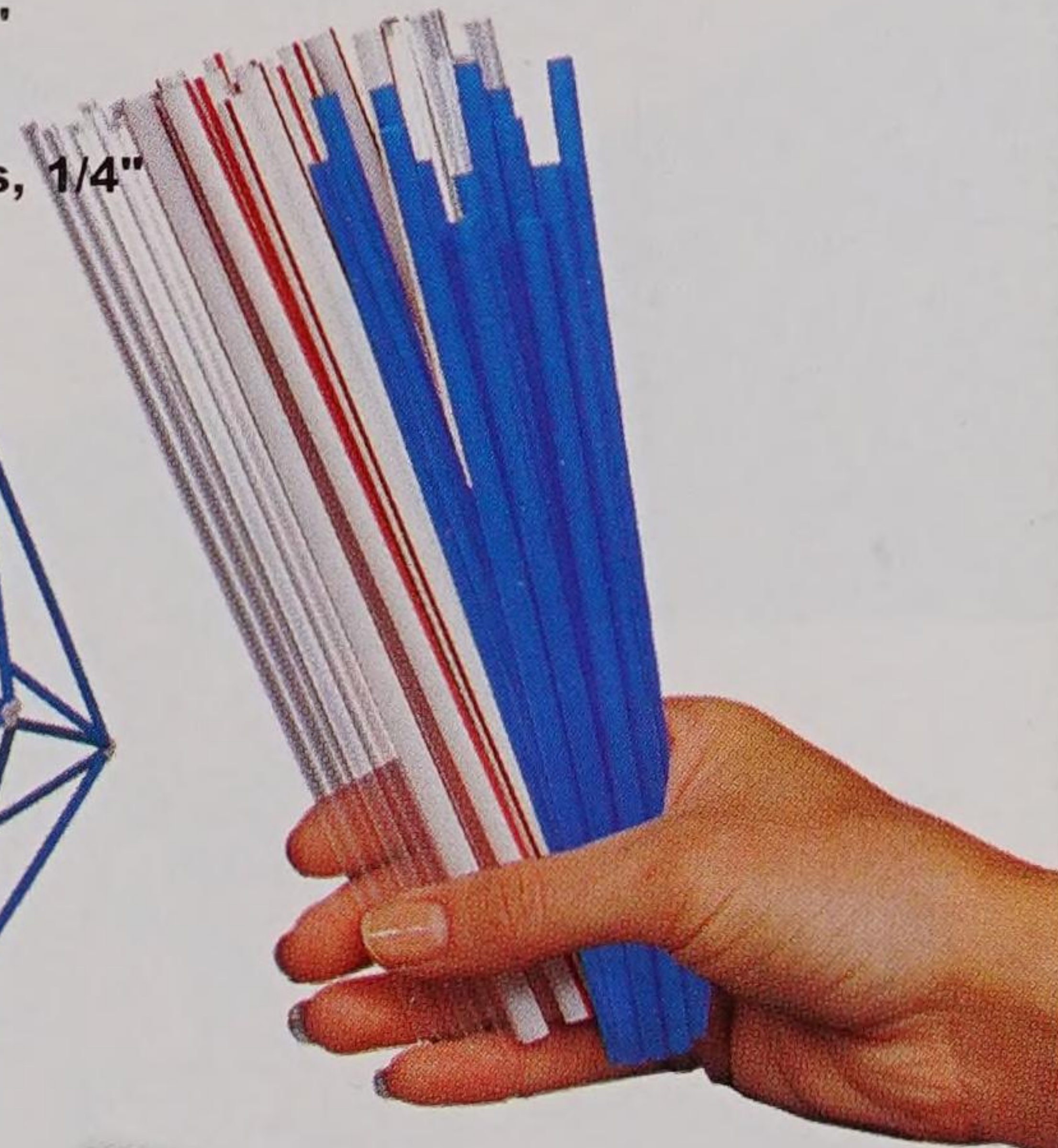
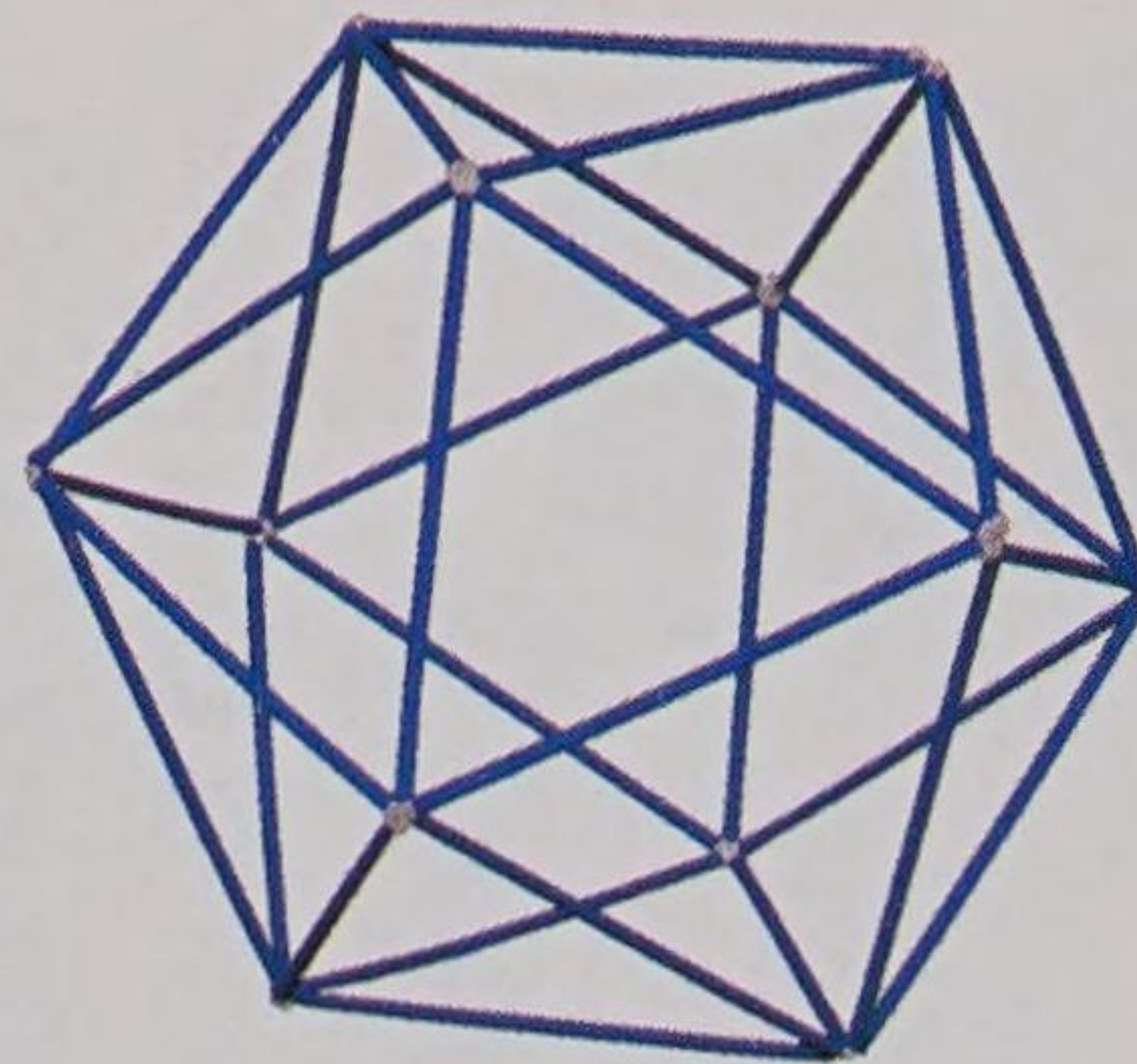
**D715909 Clear, 1/4" dia**  
(250 qty)—\$3

**D715910 White/red stripe,**  
1/4" dia (250 qty)—\$3

**D753334 Plastic straws, 1/8" dia**  
(500 qty)—\$3.50

**D756856 Long straws, 1/4"**  
(250 qty)—\$3.50

**D756820 Neon blue straws, 1/4"**  
(250 qty)—\$3



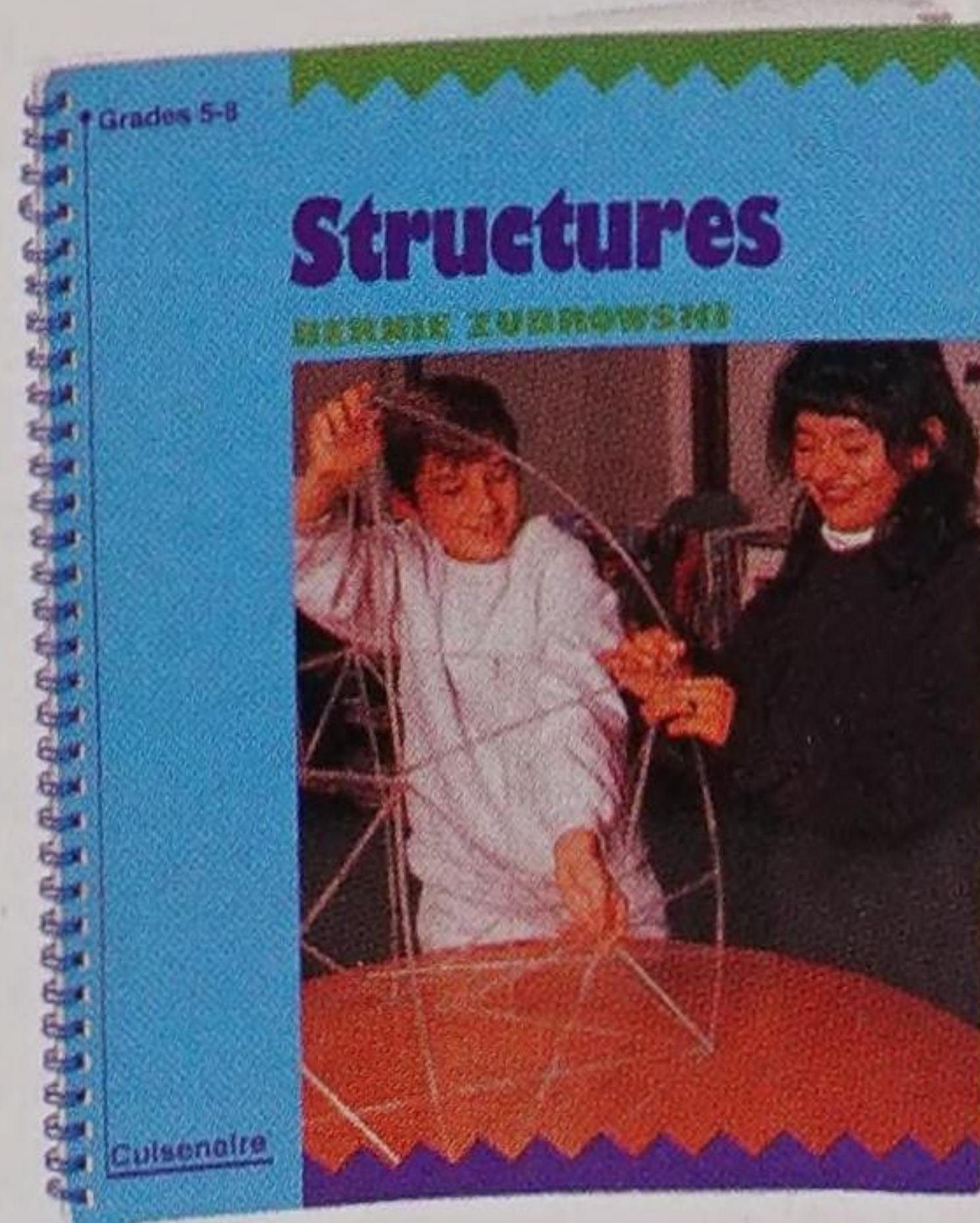
## STRUCTURES

Bernie Zubrowski

Activities in *Structures* present opportunities for learning fundamental scientific concepts and skills. Students use straws for the three basic projects of building model houses, bridges, and towers. They must isolate the essential members of a structure, and analyze how these members interact with one another. Paperback, 64 pages.

Level: Intermediate-Middle School

**D752191—\$11.50**

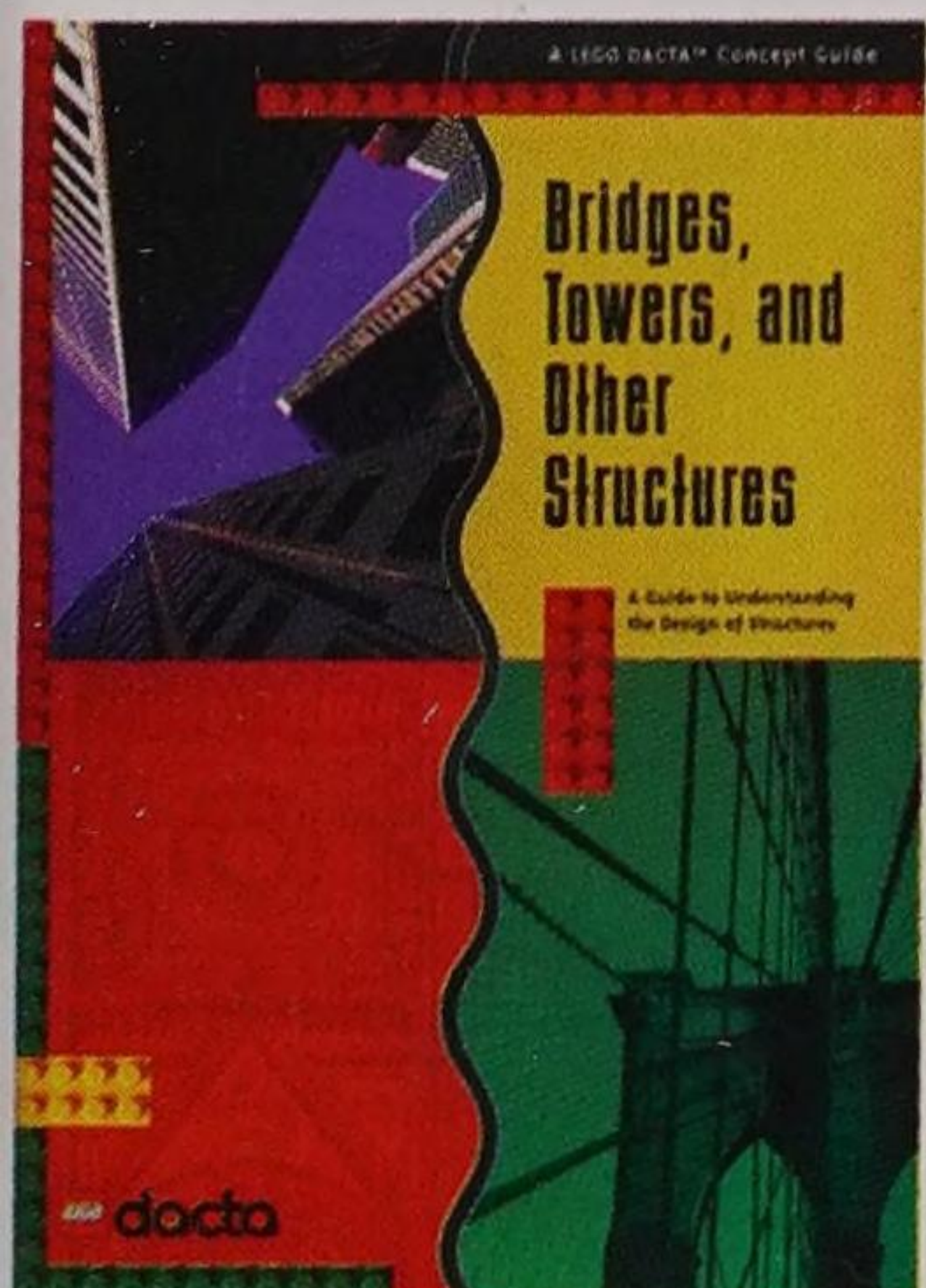


## CONCEPT GUIDE: BRIDGES, TOWERS, AND OTHER STRUCTURES #200039

This excellent 23-page guide is a great way to introduce students to the basic concepts of structural design. It takes a fascinating look at bridges, towers, skyscrapers, dams, ancient buildings, and even structural elements of nature. Use with the *Structures Set* #979618. Paperback.

Level: Middle School-High School

**D200039—\$15.50**



## Ideal Classroom Setup for 24 students

- 12 - Structures Sets (D979618)
- 1 - Structures Activity Pack (D909618)
- 1 - Concept Guide (D200039)
- 1 - The Exploratorium Guide To Scale and Structure (D754466)
- 1 - Structures by Bernie Zubrowski (D752191)
- 1 - Building Toothpick Bridges (D751784) pg. 67
- 1 - Bridges Video (D752105) pg. 68
- 1 - Buildings: How They Work (D990221) pg. 69

**Total: \$1,061.80**  
plus shipping



**PRIMARY TOWERS & BRIDGES SET #779660**

107 DUPLO elements

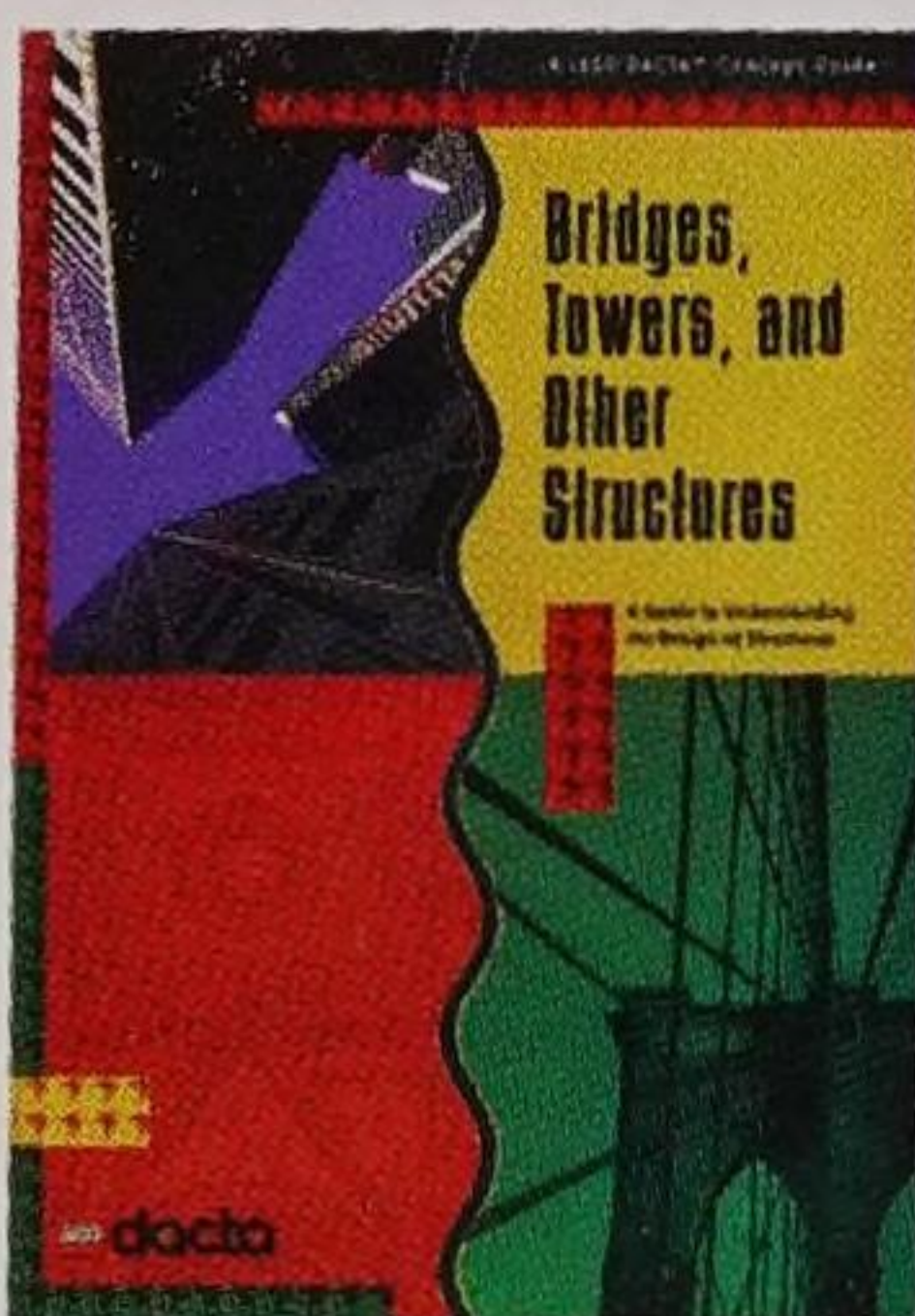
Students learn basic structure concepts with hands-on exploration! Concepts include balance within structures, ways of building structures, and stability. By building a variety of models children can determine what is the best shape for the job. It's ideal for developing design and problem-solving skills. Storage case not included.

- Designed for use by teams of two to three children
- Teacher's notes with support for 16 activities
- 12 investigation cards for 12 models
- 2 problem-solving cards
- Inventory card

**D779660—\$73.50****CONCEPT GUIDE: BRIDGES, TOWERS, AND OTHER STRUCTURES #200039**

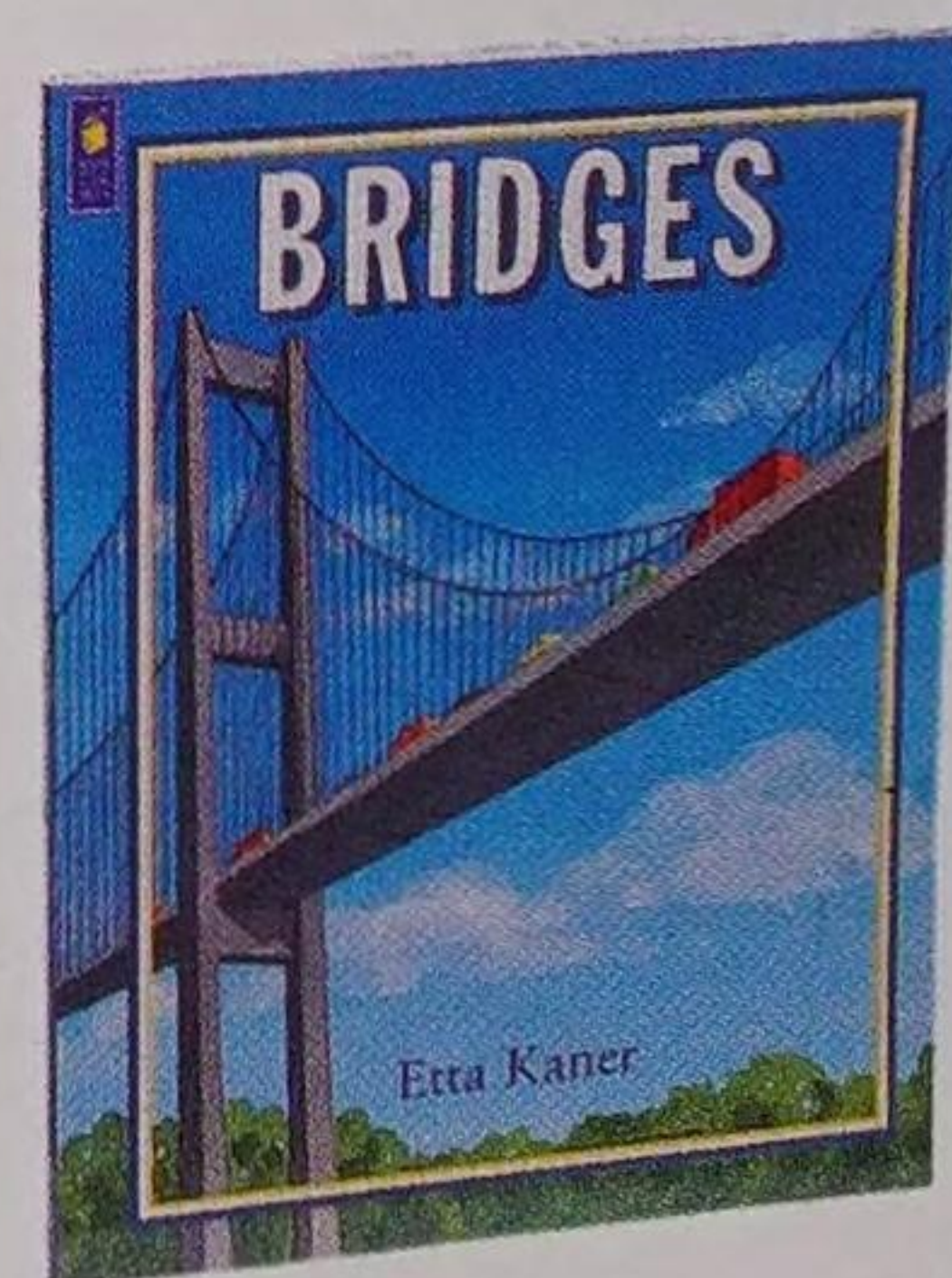
This excellent 23-page guide is a great way to introduce students to the basic concepts of structural design. It takes a fascinating look at bridges, towers, skyscrapers, dams, ancient buildings, and even structural elements of nature. Use with the *Primary Towers & Bridges Set #779660*. Paperback.

Level: Middle School-High School

**D200039—\$15.50****BRIDGES <sup>New</sup>**

Budding engineers first read a brief description of a type of bridge – beam, arch, suspension, or moveable – and then follow the simple instructions to build their own bridges, using simple materials such as paper and tape. Questions lead them in the discovery of basic engineering principles. Paperback, 48 pages.

Level: Intermediate

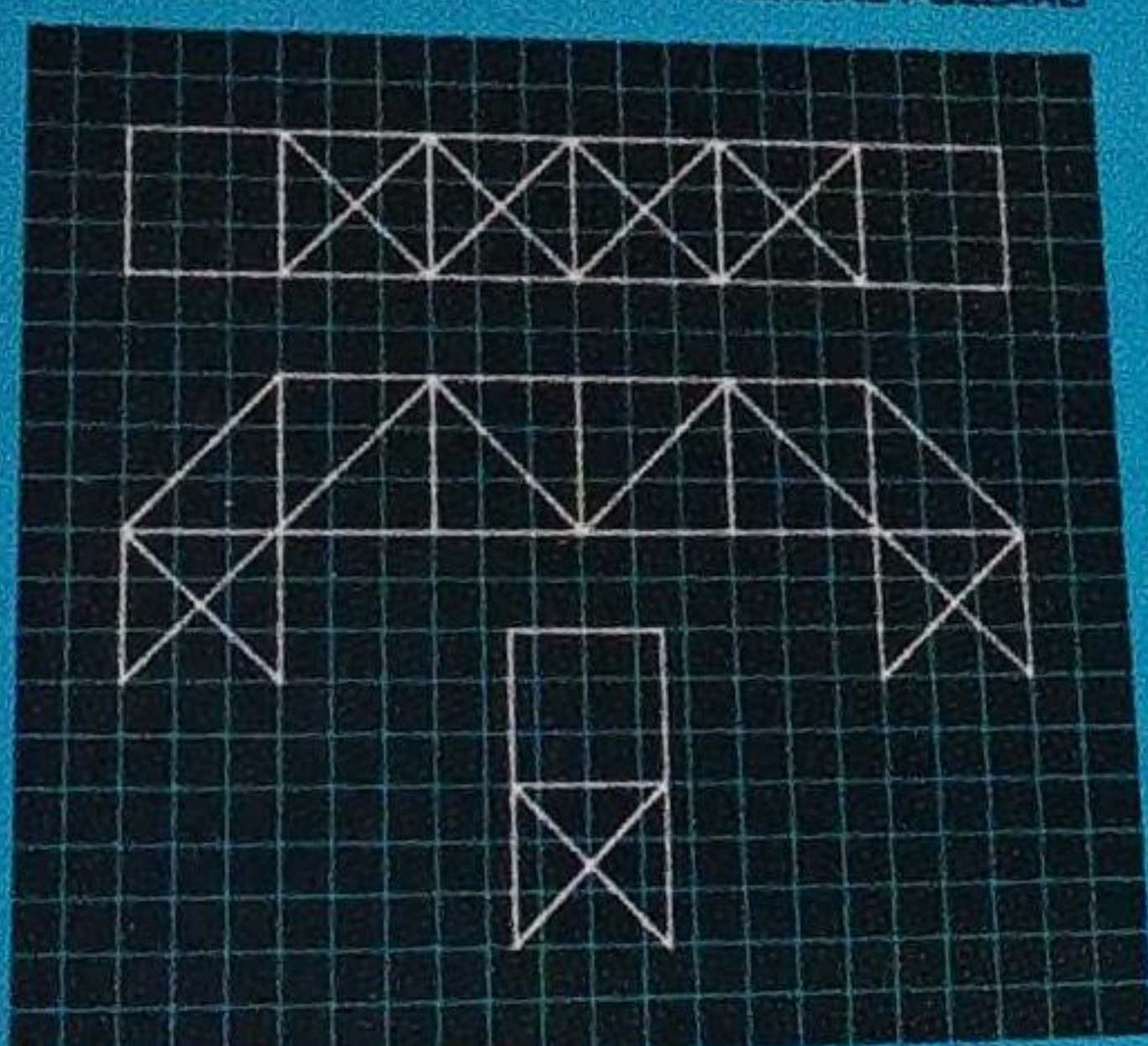
**D990218—\$9.95****Order Online!****[www.pitsco-legodactia-store.com](http://www.pitsco-legodactia-store.com)**



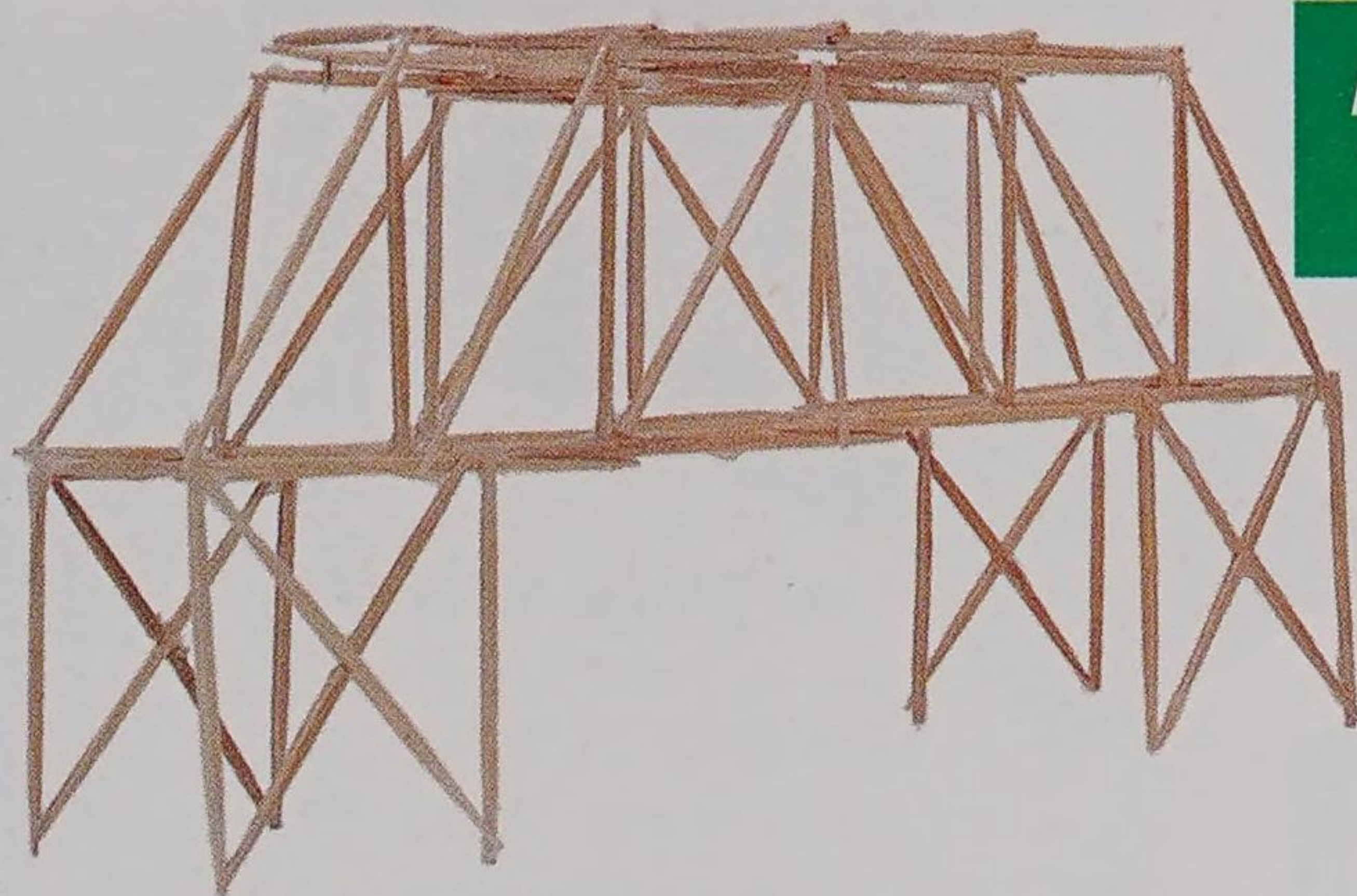
# MATH PROJECTS SERIES BUILDING TOOTHPICK BRIDGES

GRADES 5-8

JEANNE POLLARD



DALE SEYMOUR PUBLICATIONS



## Primary Towers & Bridges

67

LEGO Structures . 64-65  
• Primary Towers  
& Bridges . . . . . 66-67  
BridgePak . . . . . 70-71  
Structure Tester . . . . . 72  
TowerPak . . . . . 72

### STANDARDS

These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site:

[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

### BUILDING TOOTHPICK BRIDGES

Link your math curriculum to the world around you with the motivational ideas in this book. A "company" of students builds a bridge with an architect, project managers, bookkeepers, a budget, and materials. The book provides a practical approach to math, geometry, and social studies through the experience of bridge construction.

For the teacher, the book contains clear guidelines and plans for this valuable unit. Paperback, 30 pages.

Level: Intermediate-Middle School

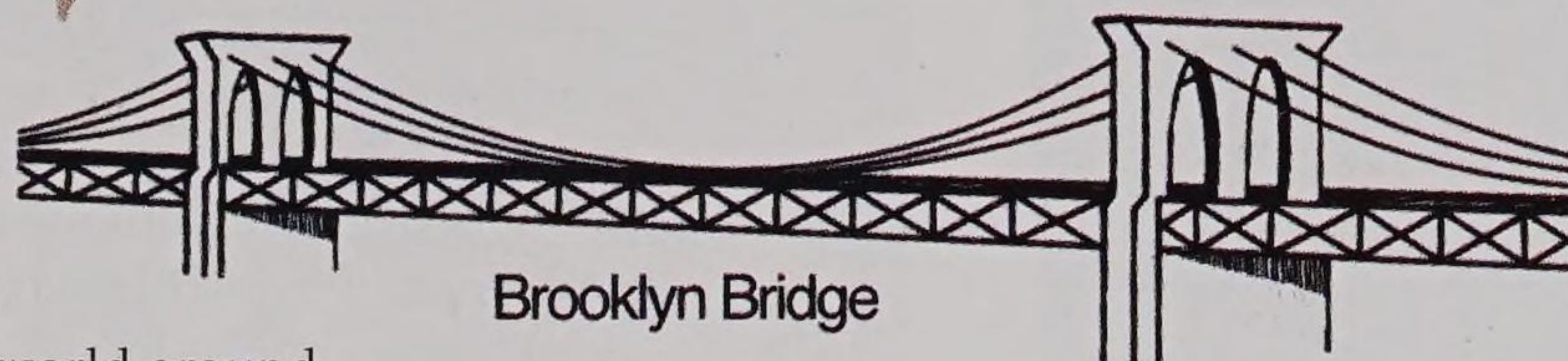
D751784 Building Toothpick Bridges Book—\$10.95

D751741 A. Round Toothpicks (800)—\$1.50

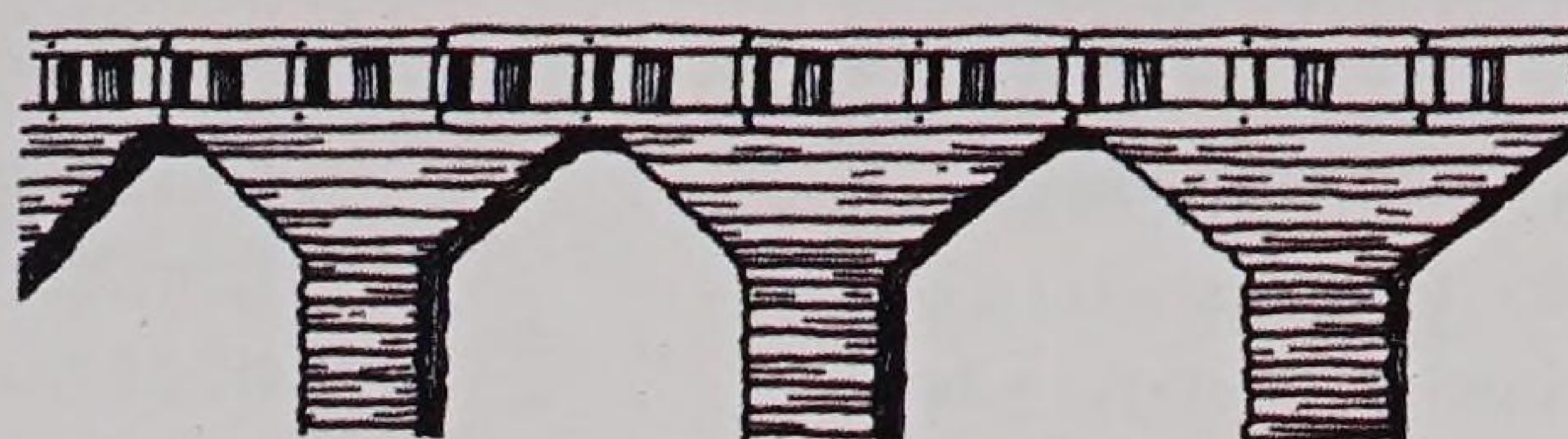
D751742 B. Square Toothpicks (800)—\$1.95

D756855 C. Colored Toothpicks (250)—\$1.95

D756854 D. Sandwich Picks (200)—\$3.95



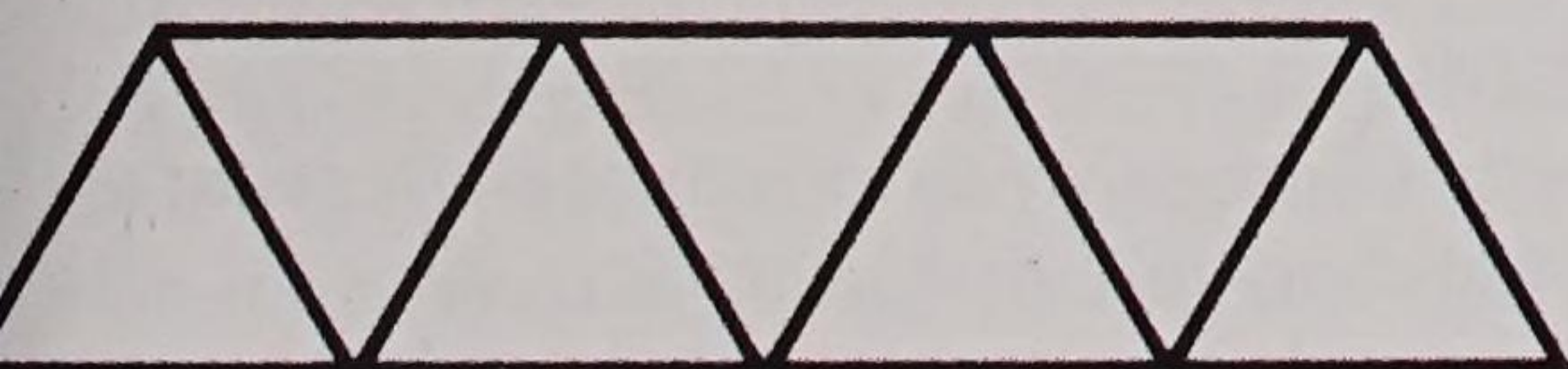
Brooklyn Bridge



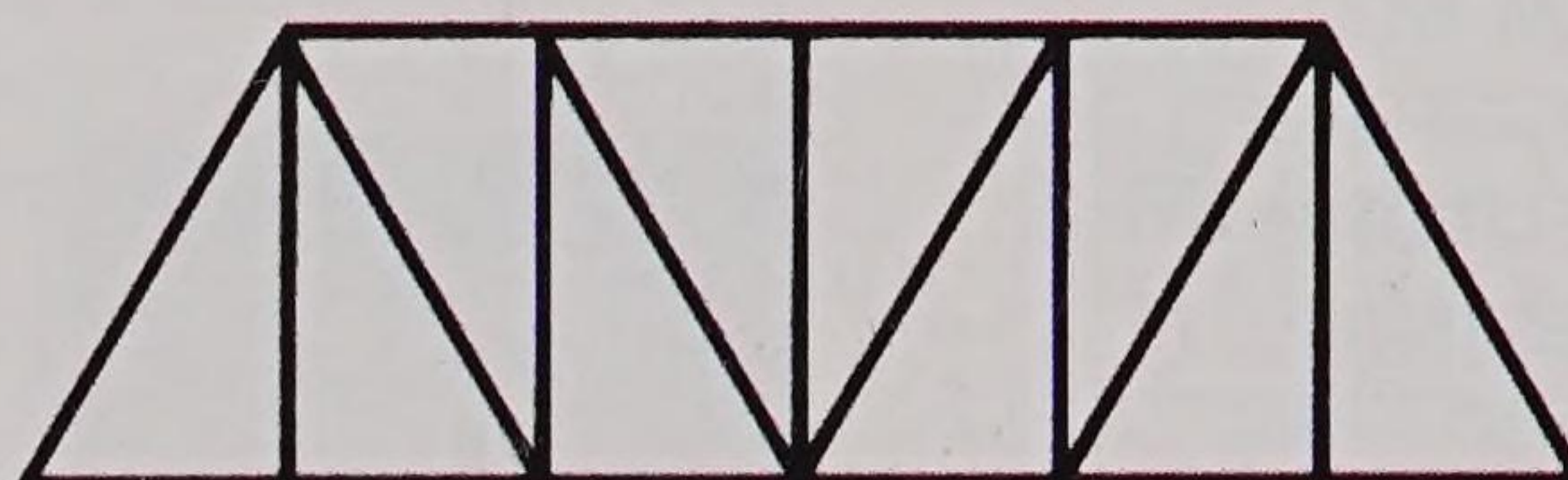
Timber cantilever bridge design



Covered Bridge



Warren  
(without vertical supports)



Pratt



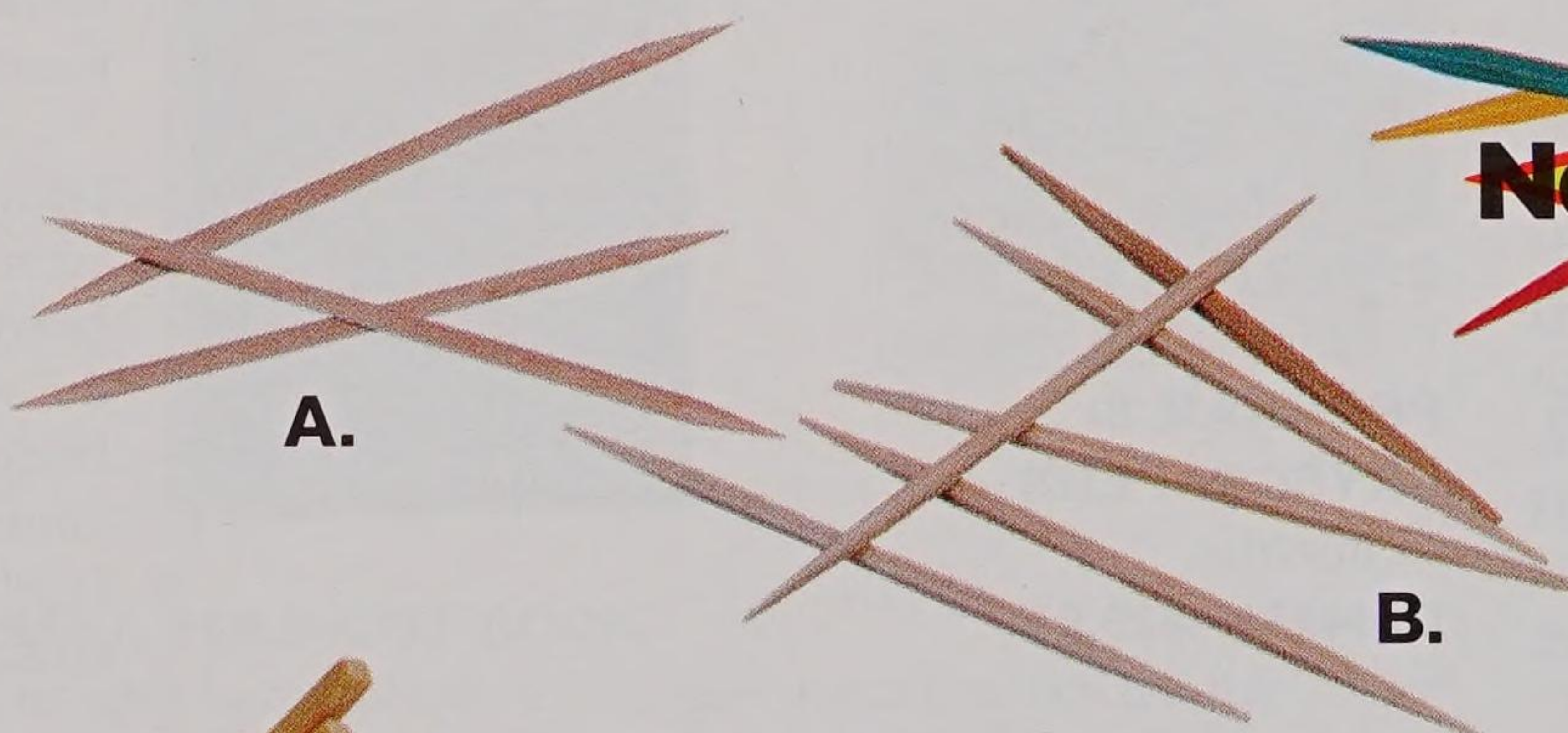
D.

New



C.

New



A.

B.

Professional staff  
development  
available in most  
states.  
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### BLUNT END STRUCTURE STICKS

Try these structure sticks instead of toothpicks. Blunt ends not only make them safer with which to work, but they also allow for more precise joints and stronger structures! The square sticks are 2-5/8" in length.

500 per pkg.

D754459—\$1.85



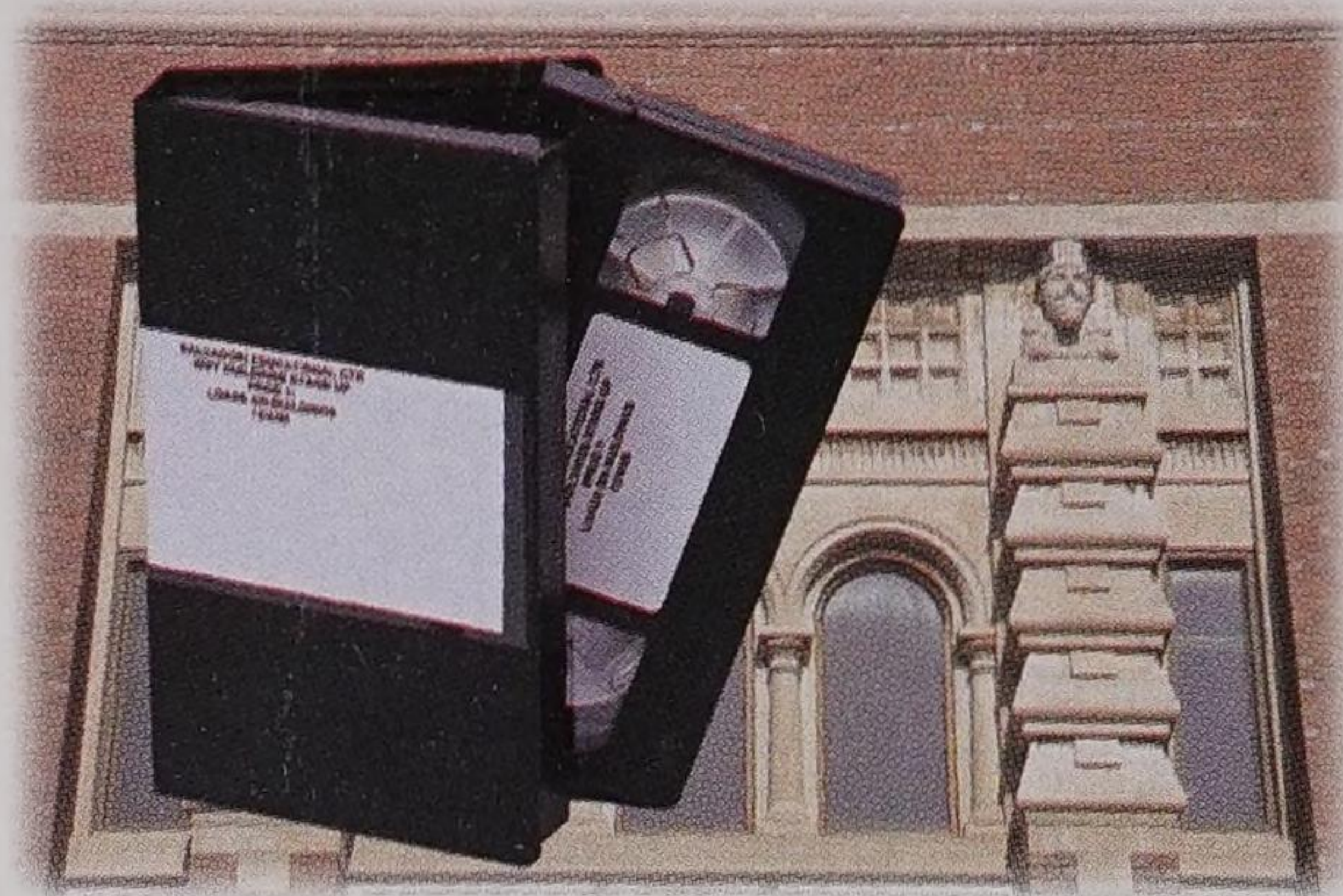
PITSCO dacta  
PARTNERS IN INNOVATIVE EDUCATION

Ideal Classroom Setup  
for 24 students

6 - Primary Towers and  
Bridges Set  
(D779660)  
1 - Bridges Book  
(D990218)  
1 - Concept Guide: Bridges,  
Towers, and Other Structures  
(D100039)

Total: \$466.45  
plus shipping





### WHY BUILDINGS STAND UP VIDEOS WITH MARIO SALVADORI

One of the world's most respected authorities on structural engineering hosts this informative video series. The videos are a great resource for teachers who are considering teaching structures but don't know where to begin. Ideas for activities and even classroom presentation are covered at length.

*Teacher's Resource*

#### PROGRAM 1: LOADS ON BUILDINGS

27 minutes.

**D754925—\$29.95**

#### PROGRAM 2: EQUILIBRIUM AND MATERIALS

27 minutes.

**D754926—\$29.95**

#### PROGRAM 3: BRIDGES

26 minutes.

**D754927—\$29.95**

#### PROGRAM 4: PAPER STRUCTURES

21 minutes.

**D754928—\$29.95**

#### PROGRAM 5: CHILDREN AND MATH

25 minutes

**D754929—\$29.95**

#### PROGRAM 6: HISTORY OF ARCHITECTURE ENGINEERING

30 minutes.

**D754930—\$29.95**

#### PROGRAM 7: SWING BRIDGES

13 minutes.

**D754931—\$29.95**

#### PROGRAM 8: SKYSCRAPERS

15 minutes.

**D754932—\$29.95**

### BUILDING SKYSCRAPERS

This video shows kids the fascinating nuts and bolts of how skyscrapers are made. Its kid-friendly, "How do they do that?" format is designed to inspire creativity.

Students will be thrilled with exciting footage of amazing explosions, swinging steel, mixing concrete, and breath-taking skyscraper fly-overs. Kids will appreciate what it takes to create skyscrapers – true wonders of the modern world.

Time: 40 minutes.

*Level: Intermediate-Middle School*

**D753020—\$22**



### MODERN MARVEL VIDEO SERIES

This fascinating video series examines some of the world's most impressive landmarks. These structures represent the greatest engineering achievements of the 20th century as well as a nation's resolve to triumph over adversity. See how their builders overcame unique challenges using problem-solving skills and imaginative construction methods.

Time: 50 minutes.

*Level: Middle School-High School*

**D715800 Statue of Liberty—\$22**

**D715802 Transcontinental Railroad—\$22**

**D715804 Gothic Cathedrals—\$22**

**D715806 Tunnels—\$22**

**D715805 Domed Stadiums—\$22**

**D753042 Empire State Building—\$22**

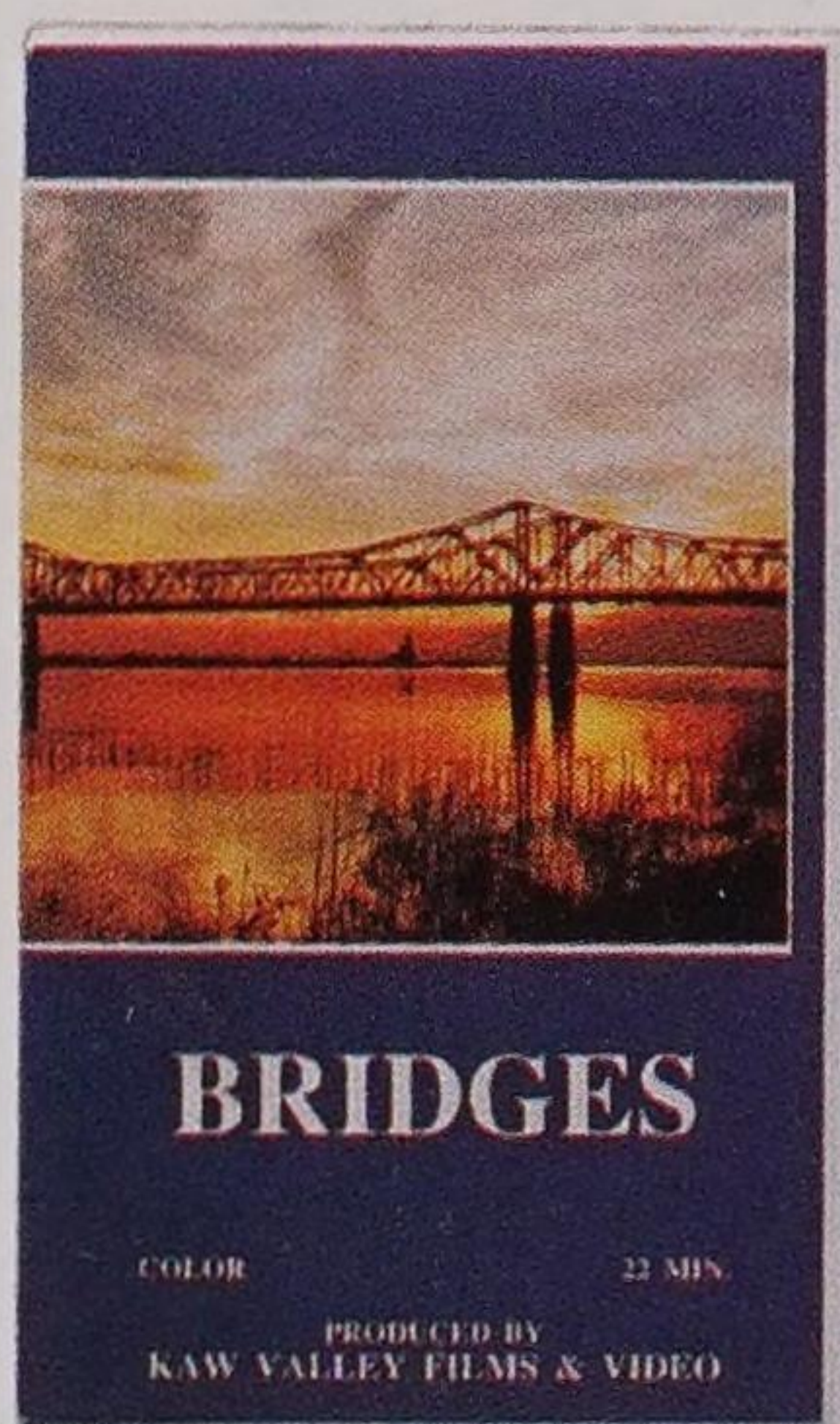
**D753041 Grand Coulee Dam—\$22**

**D753043 Mount Rushmore—\$22**

**D715801 Panama Canal—\$22**

**D715799 Eiffel Tower—\$22**

**D715803 Ocean Liners—\$22**



### BRIDGES

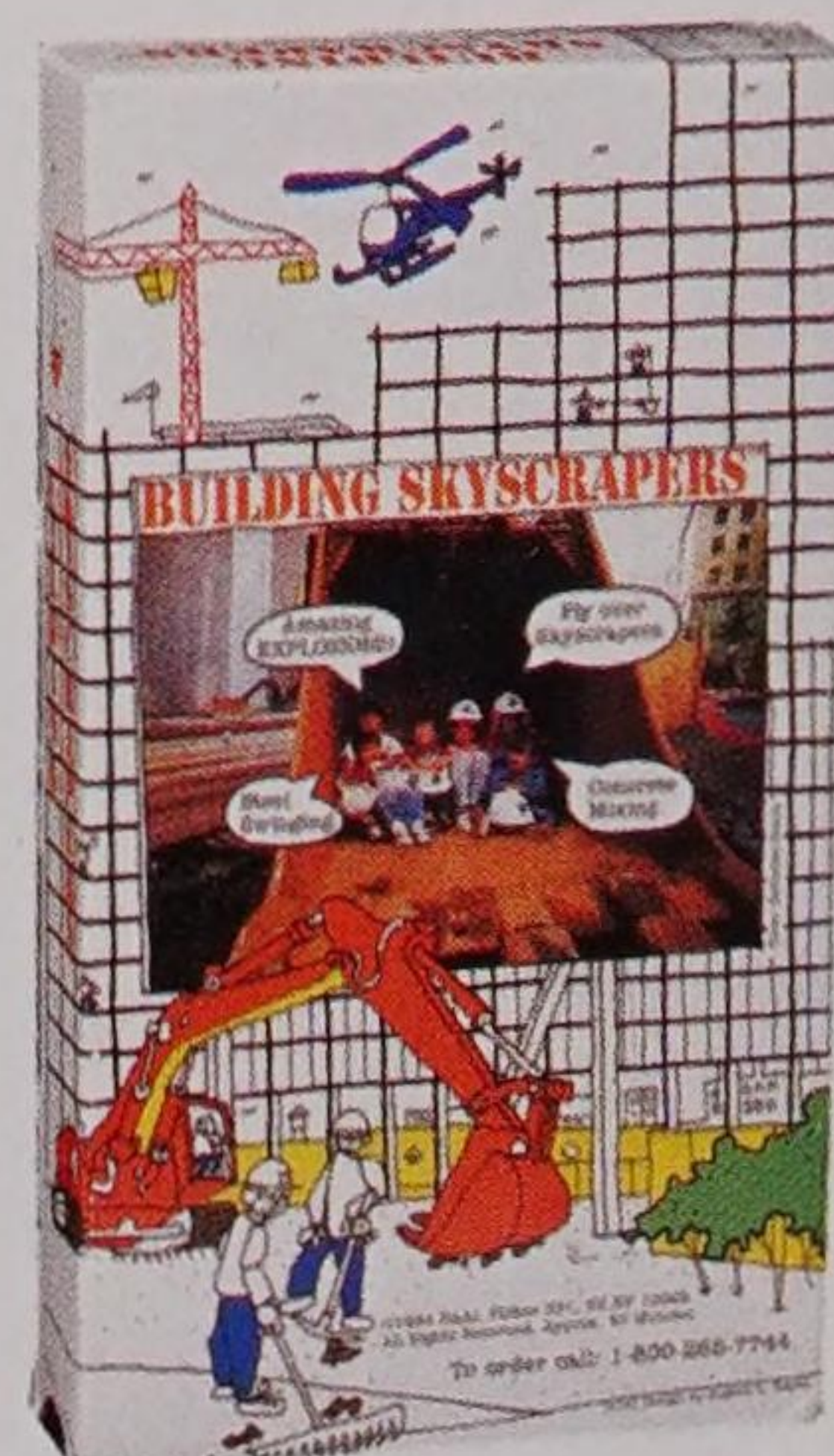
A stimulating way to introduce students to a bridge-building unit! *Bridges* starts in the beginning – when nature provided our first bridges: logs, rocks, hanging vines – and chronicles the progression of bridge technology – wood, stone, iron, steel, and reinforced concrete.

*Bridges* also explores the various uses of bridges, as well as the four basic bridge designs: beam, arch, suspension, and pontoon. It includes famous bridges and features exciting footage of the spectacular collapse of the Tacoma Narrows Bridge.

Time: 22 minutes.

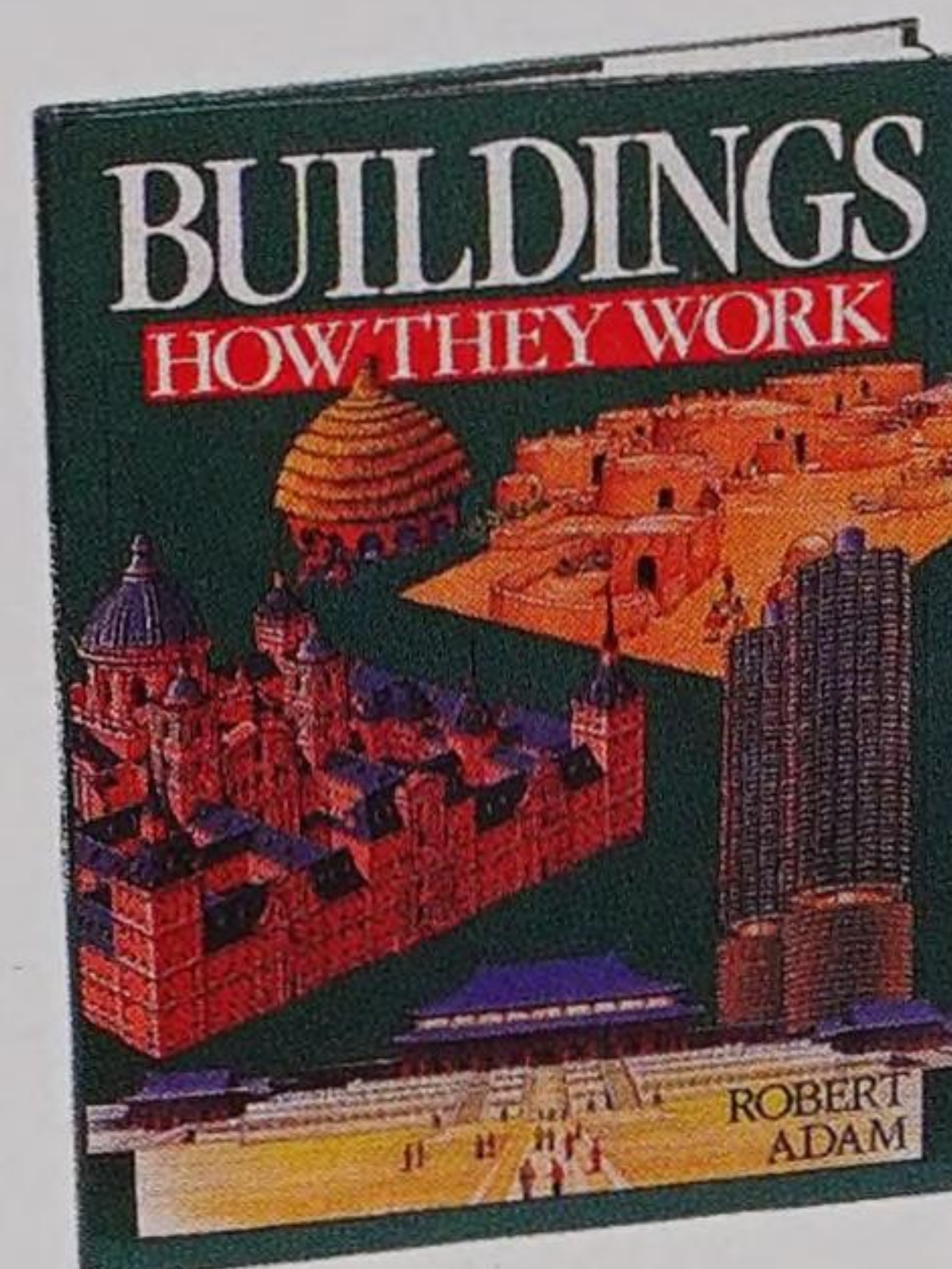
*Level: Middle School-High School*

**D752105—\$49.95**





LEGO Structures .	64-65
Primary Towers	
& Bridges . . . . .	66-67
BridgePak . . . . .	70-71
Structure Tester . . . . .	72
TowerPak . . . . .	72



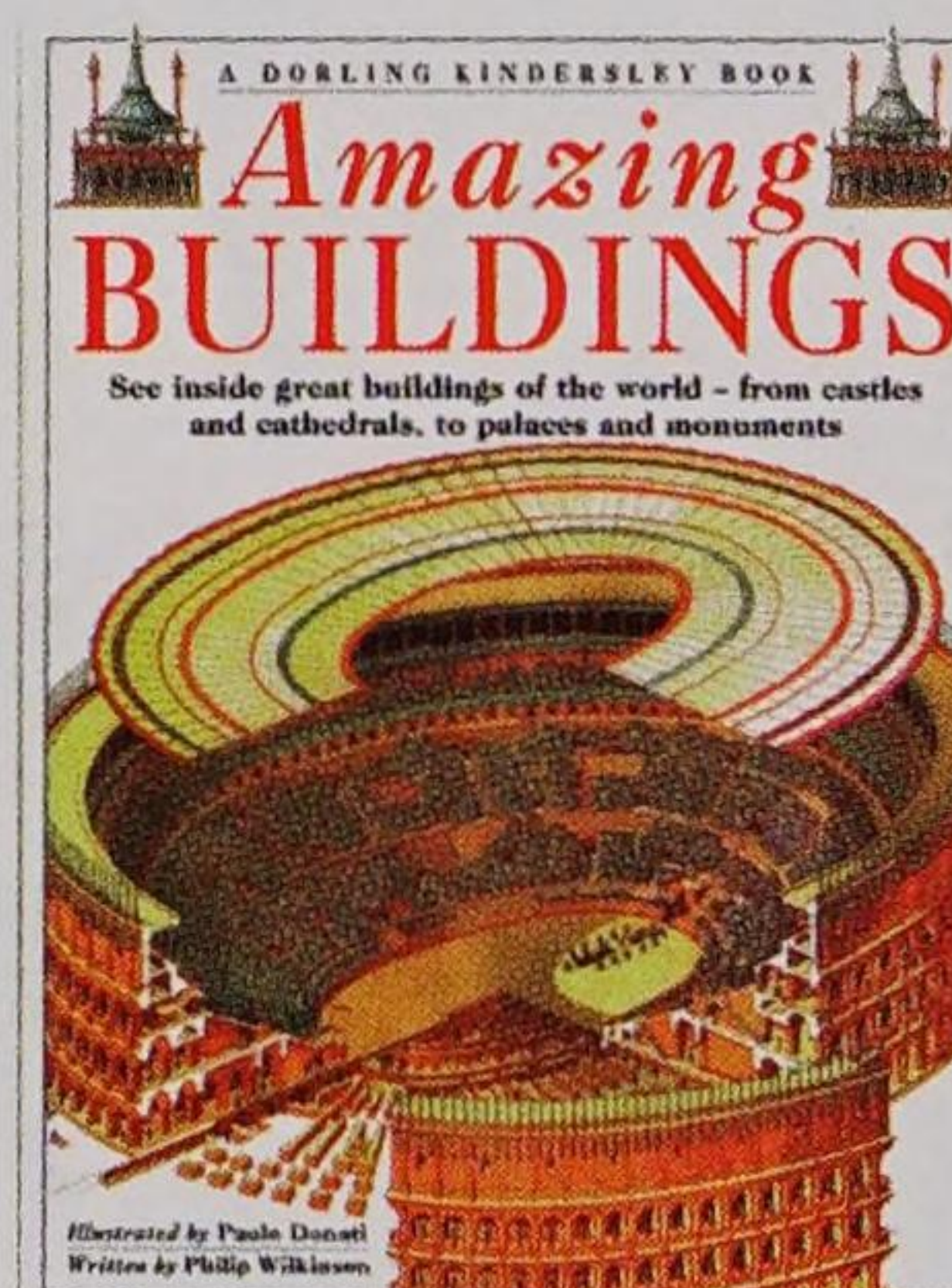
## BUILDINGS: **New** HOW THEY WORK

A child's introduction to architecture, this simple, nicely illustrated book discusses why and how

people use buildings and different ways they have solved problems of climate and shelter over the centuries. It covers the use of buildings by both individuals and communities and includes cutaway drawings and frameworks of some famous buildings. Hardback, 46 pages.

Level: Intermediate-Middle School

**D990221—\$14.95**

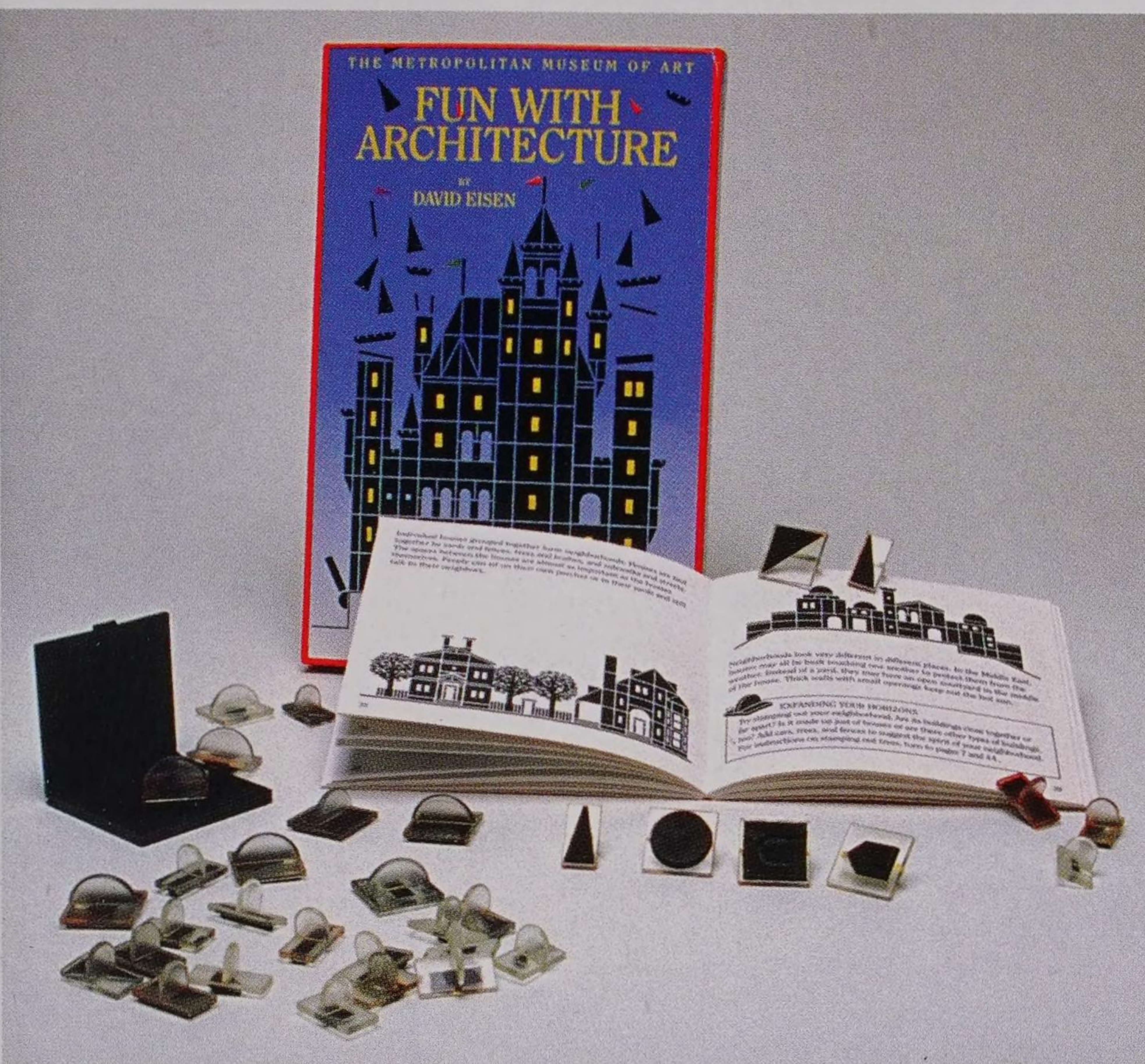


## AMAZING BUILDINGS

*Amazing Buildings* is an introduction to the fascinating world of architecture. The large-scale artwork, with sections cut away and roofs lifted off, allows students to step inside more than 20 of the world's finest ancient and modern buildings. Hardback, 48 pages.

Level: Middle School

**D752117—\$16.95**

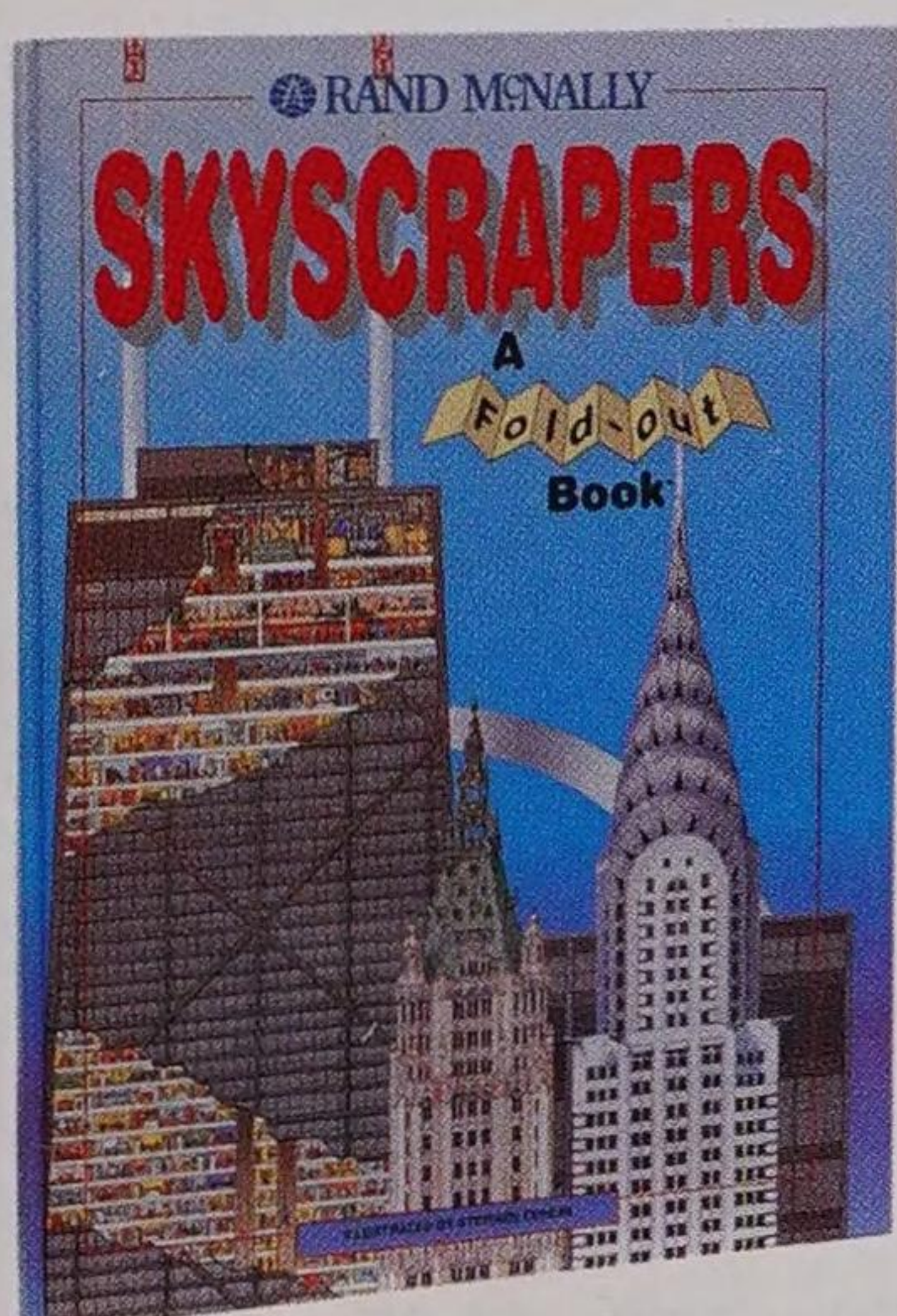


## FUN WITH ARCHITECTURE

Here's an unconventional (not to mention brilliant) way to get your students interested in architecture and design. This set of 35 rubber stamps lets students stamp out fantastic structures, such as a modern suspension bridge, Rome's Pantheon, a simple country house, or an entire cityscape. While doing so, they learn the elements of architecture.

Includes a guidebook, written by an architect and a teacher, that introduces basic architectural principles and styles from the ancient world to the present day. Readers can recreate the book's many illustrations or create their own designs. Packaged in a sturdy storage case with magnetic closure, it also contains an ink stamp pad and an "Elements of Architecture" chart.

**D752796—\$22.50**



## SKYSCRAPERS: A FOLD-OUT BOOK

*Skyscrapers* unfolds to reveal two towering illustrations that tell the story of the world's tallest structures! On one side of the book you can peer into an amazing cutaway of Chicago's Hancock Center. From its foundation of caissons 15 stories below ground to its twin TV and radio antennas 1,127 feet above ground, it's all exposed in breathtaking, true-to-scale detail.

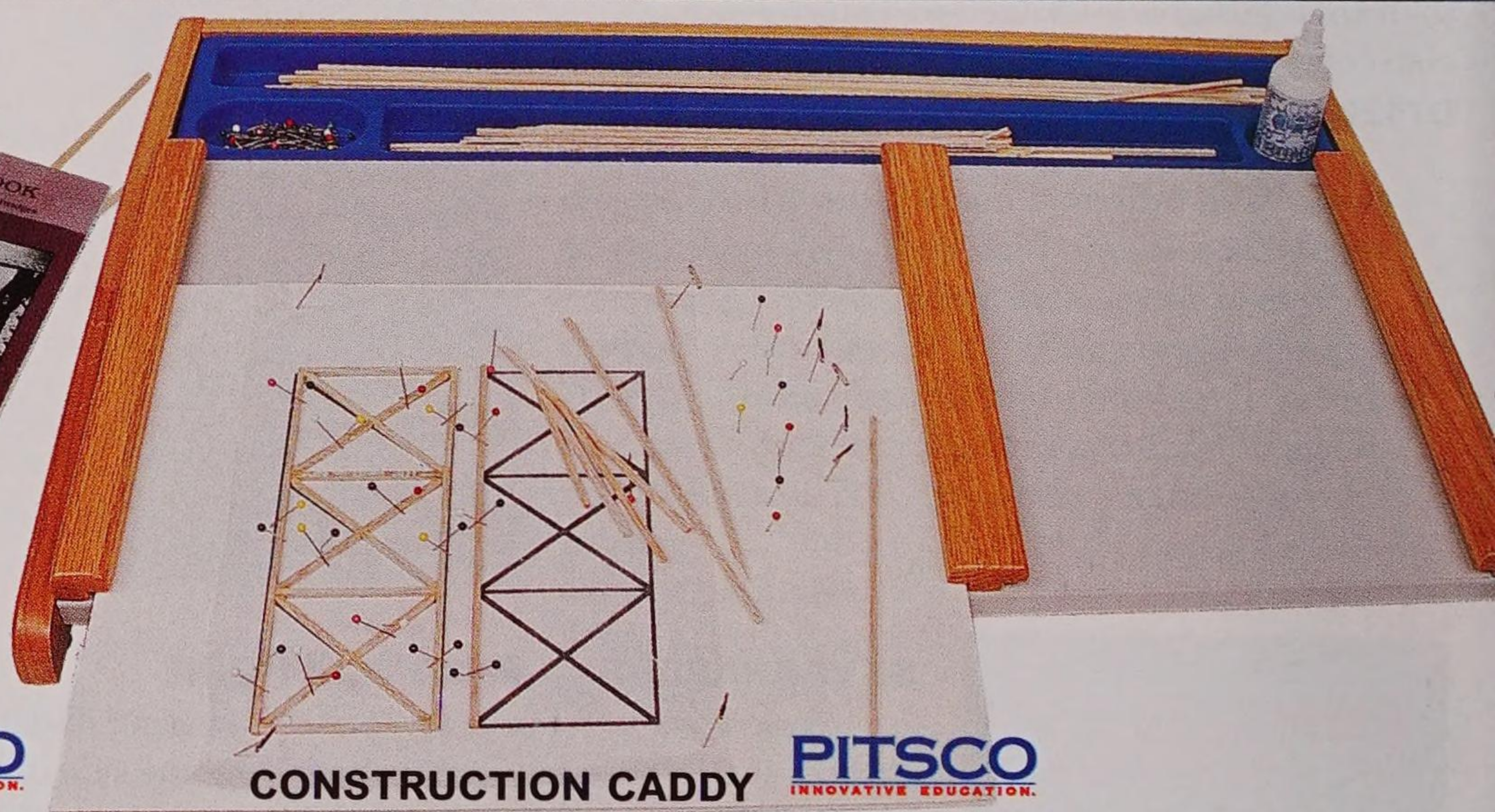
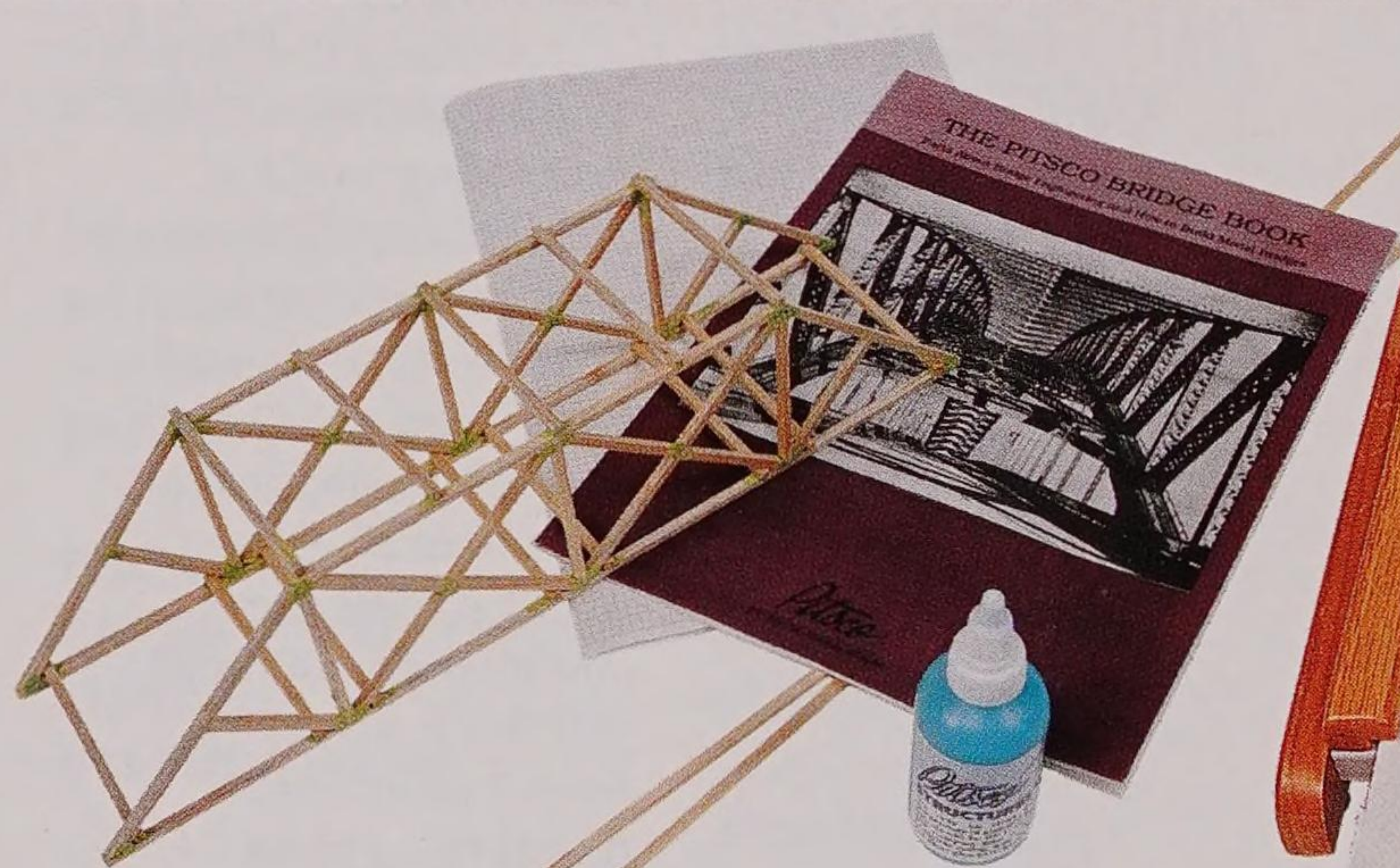
A second illustration sizes up the world's tallest structures, from the Ulm Cathedral to the CN Tower in Toronto. All buildings are drawn to scale for your comparison. Bound in a protective hard cover. Fold-out size is 65-1/2".

Level: Middle School-Adult

**D754922—\$14.95**



# 70 BridgePak



## BRIDGEPAK (FOR 25 STUDENTS)

**PITSCO**  
INNOVATIVE EDUCATION

Balsa or basswood strips, individual bottles of Pitsco colored wood glue, *The Pitsco Bridge Book*, student guide sheets, and so on.

Let's just say it's everything you need to complete an exciting bridge design and building activity for a class of 25.

Balsa strips are 1/8" x 1/8" x 24".

Basswood strips are 3/32" x 3/32" x 24".

**D751706 Balsa—\$75**

**D751707 Basswood—\$75**

**D751705 The Pitsco Bridge Book—\$2**

10 books for \$18

## CONSTRUCTION CADDY

**PITSCO**  
INNOVATIVE EDUCATION

The *Construction Caddy* is designed to organize often-cluttered engineering projects such as bridge building, structural projects, and model plane construction. The caddy holds pens, pencils, straight pins, glue bottles, and building material in an easy access tray. The spacious 12" x 26" work area accepts a piece of foam board and holds it firmly in place. Just tape a design template sheet to the foam board and pin the pieces to the board for convenient gluing. At the end of the period, the foam board can be slid out and stored in a safe place, and the *Caddy* is ready for more use. *Timber Cutter* sold separately.

**D713163—\$129**

**D751528 Foam board sheets (3/16" x 12" x 36")—\$2.25**

10 sheets for \$20.30

**WAXED PAPER**

**D750032—\$2.25** 10 for \$20.30

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**888-534-6784**



## THE PITSCO BRIDGE BOOK

Facts About Bridge Engineering and How to Build Model Bridges



**PITSCO**  
INNOVATIVE EDUCATION

### THE PITSCO BRIDGE BOOK

A complete guide to model bridge building. Discusses history of bridges, types of trusses, glue joints, and construction ideas.

Illustrated student guide includes competition rules, drawings, and a crossword puzzle to be filled out by the student. Can also be used as a teacher's resource. Paperback, 22 pages.  
Level: Middle School-High School.

**D751705—\$2**

**10 for \$18**



**BridgePak**

**71**

LEGO Structures . 64-65  
Primary Towers  
& Bridges . . . . . 66-67  
• BridgePak . . . . . 70-71  
Structure Tester . . . . . 72  
TowerPak . . . . . 72

## STANDARDS

These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site:

[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

### STRUCTURE TESTING DEVICE **PITSCO** FOR SCIENCE OLYMPIAD

Designed specifically for testing bridges and towers in Science Olympiad competitions! Features a sturdy metal stand with an adjustable bridge span. A test block sits on the roadbed, under which a bucket is suspended. The load can be gradually applied to the bridge or tower by slowly adding the sand (not included).

Includes stand, test block, chain, bucket, and other necessary hardware.

**D754604—\$195**



### TIMBER CUTTER **PITSCO** INNOVATIVE EDUCATION

The *Timber Cutter* from PitSCO has an ultra-safe, completely enclosed blade that works well for cutting small wooden strips and sticks used in various building projects. The razor-sharp blade rotates to allow virtually any cutting angle, and angle indicator marks serve as a guide. Five extra blades are included.

**D718818—\$19.95**

### TIMBER CUTTER BLADE PACKAGE

Replacement blades for the PitSCO *Timber Cutter*. Package of 5.

**D718819—\$1.50 10 for \$13.50**

**PITSCO** **LEGO** **dacta**  
PARTNERS IN INNOVATIVE EDUCATION

### Ideal Classroom Setup for 24 students

- 1 - Balsa BridgePak\*  
(D751706)
- 12 - Timber Cutter  
(D718818)
- 12 - Construction Caddy  
(D713163)
- 12 - Foamboard Sheets  
(D751528)
- 12 - Timber Testers  
(D712583) pg. 72
- 1 - Science Olympiad Structure Tester  
(D754604)

**Total: \$2,323.80**  
plus shipping

\* Consumables





Order Online!

[www.pitsco-legodacta-store.com](http://www.pitsco-legodacta-store.com)
**TOWERPAK** **PITSCO**  
INNOVATIVE EDUCATION  
**(FOR 25 STUDENTS)**

The *TowerPak* is the most convenient and economical way to introduce an exciting tower activity to your entire class.

The *TowerPak* supplies an entire class with the materials they need for the activity – your choice of balsa or basswood building material, colored Pitsco structure glue (the color makes it great for locating and judging joints), 25 tower design grid sheets, and 25 copies of the tower design and building activity guide. Not intended for use with *Epicenter*.

**D752534 Balsa—\$95****D752537 Basswood—\$95****DI2000 STRUCTURE TESTER**
**PITSCO**  
INNOVATIVE EDUCATION

The simple, safe, and effective method of testing student-engineered bridges and towers! Using a smooth, hand-operated pump, students can apply up to 1,000 pounds of force to everything from structures made of balsa sticks and toothpicks to craft stick bridges. They can watch the pounds of force gradually build on the digital display. When a structure fails, the maximum load reading is locked on the display for easy reading. Teachers will appreciate the convenience and accuracy of the *di2000 Structure Tester*. The ingenious design provides consistent, precise measurements every time. It's safe, too, featuring high-quality, high-strength construction and a transparent acrylic viewing shield.

**FEATURES:**

- Quick, convenient, safe testing of structures
- Versatility to test both bridges and towers
- Brute force (tests up to 1,000 pounds)
- Accurate measurement with a digital readout
- Peak load-holding display
- Smooth, easy hand-pump operation
- One-button zero (tare) function
- One-button switching between kilograms and pounds
- Optional PC interface included – connects to serial port, graphs structure tests in real time, calculates efficiency of structure, and even has sound effects!

**D721705—\$1,295****TIMBER TESTER**
**PITSCO**  
INNOVATIVE EDUCATION

The Pitsco *Timber Tester* allows you to select the strongest timbers (balsa or basswood strips) to use in building a tower or bridge. Wooden sticks come from different trees or different parts of a tree, and therefore have different structural characteristics. Also, timbers, like baseball bats, have a "strong side" and can bear the highest loads when oriented correctly within a structure.

By using the *Timber Tester*, you can determine the best timbers to use for the most critical members of the bridge or tower, as well as the optimum way to orient the timbers to provide the maximum amount of load-bearing capacity.

The unit is durable, with the main member of the unit constructed of rugged ABS plastic. The testing span is adjustable from 4 to 12 inches, and the scale provides readings from 0 to 7 units of load. We recommend one *Timber Tester* for every four to six "structural engineers."

**D718523—\$19.95**



## PAPER BRIDGES: STRENGTH THROUGH FORM, AN ILLUSTRATED TEACHER'S MANUAL

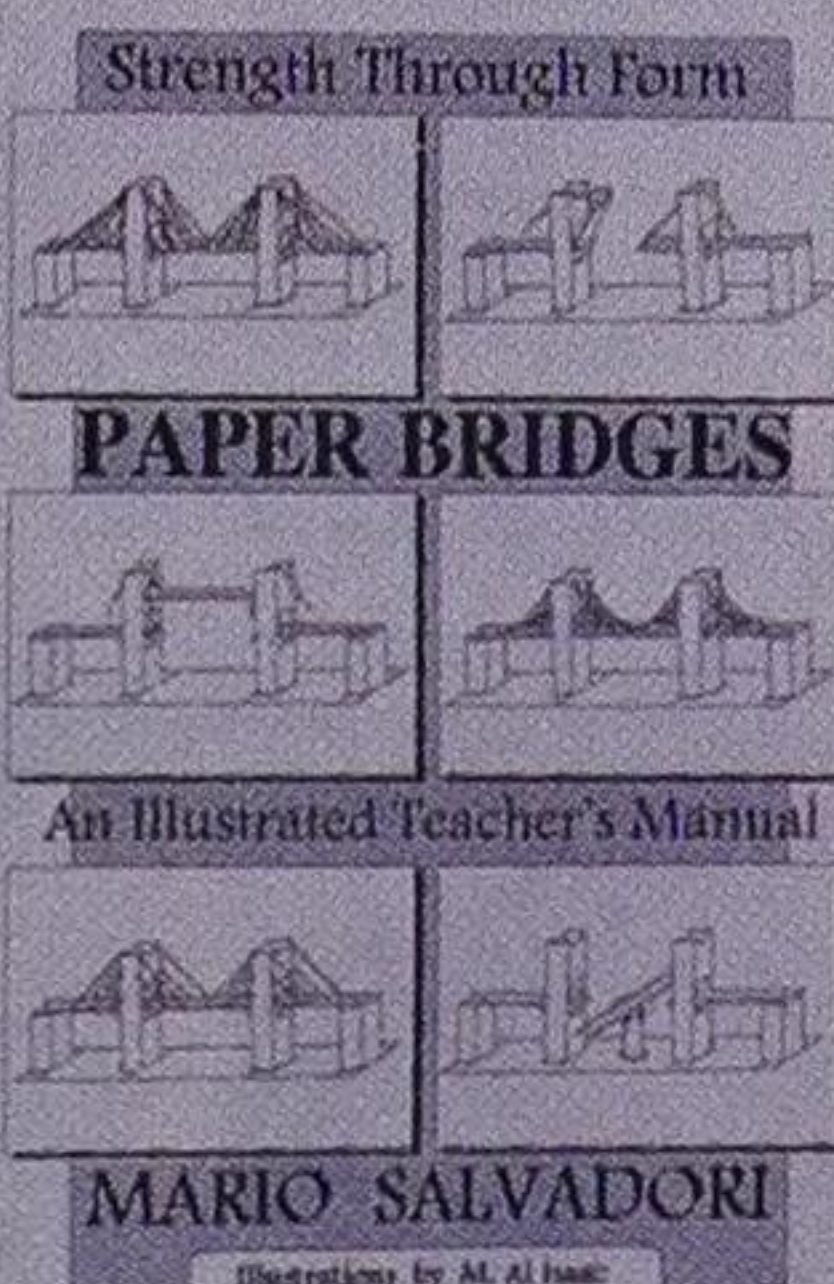
Mario Salvadori

Students in Grades 5-9 can acquire a wealth of knowledge while having fun building paper bridges. The fantastic bridge-building activities in this guide introduce students to the engineering concepts of tension, compression, bending, and buckling. Students are led to invent their own models, which stimulates creativity as they experiment with structural concepts. The need for time limits, financial budgets, and team collaboration are also covered. Includes 12 activities.

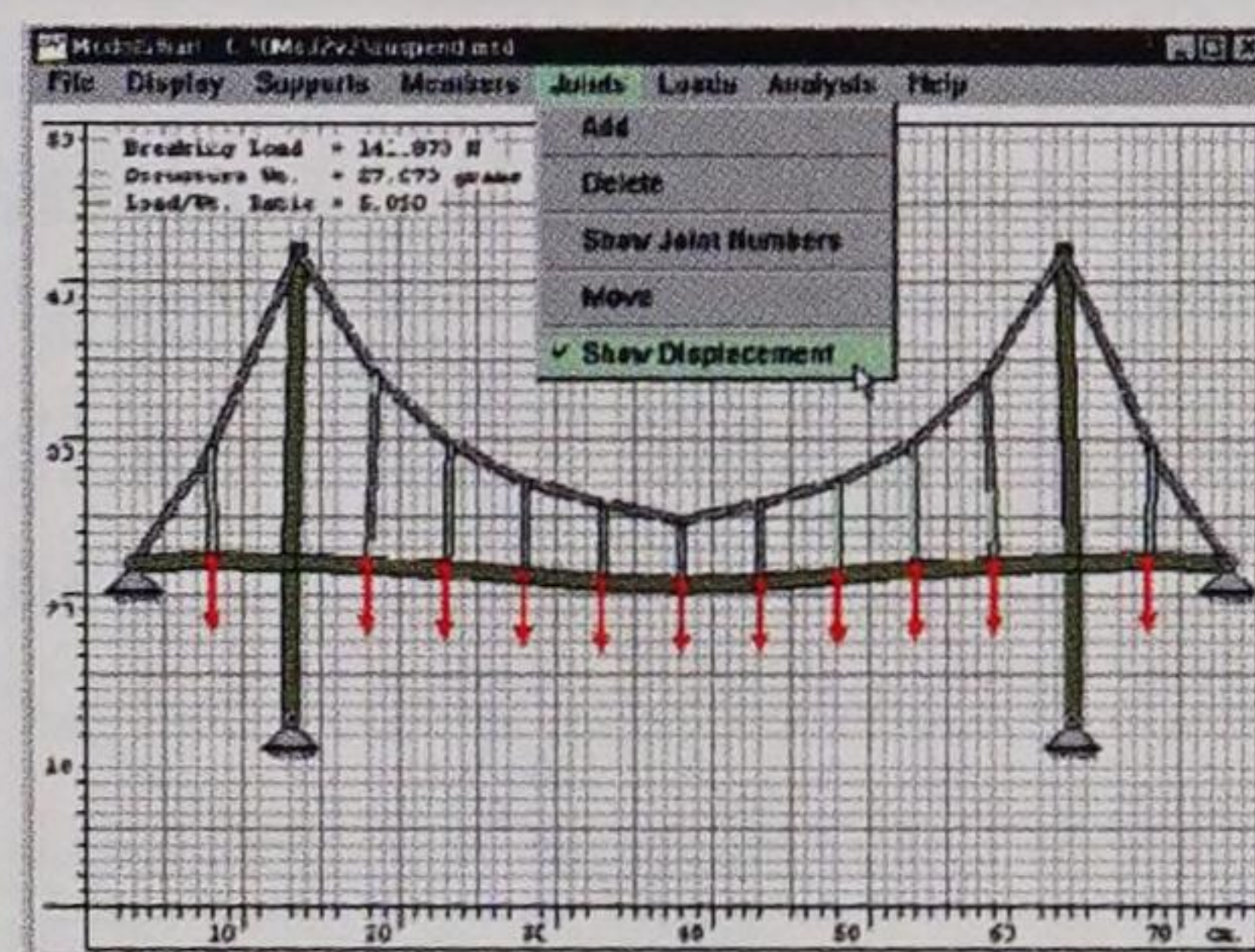
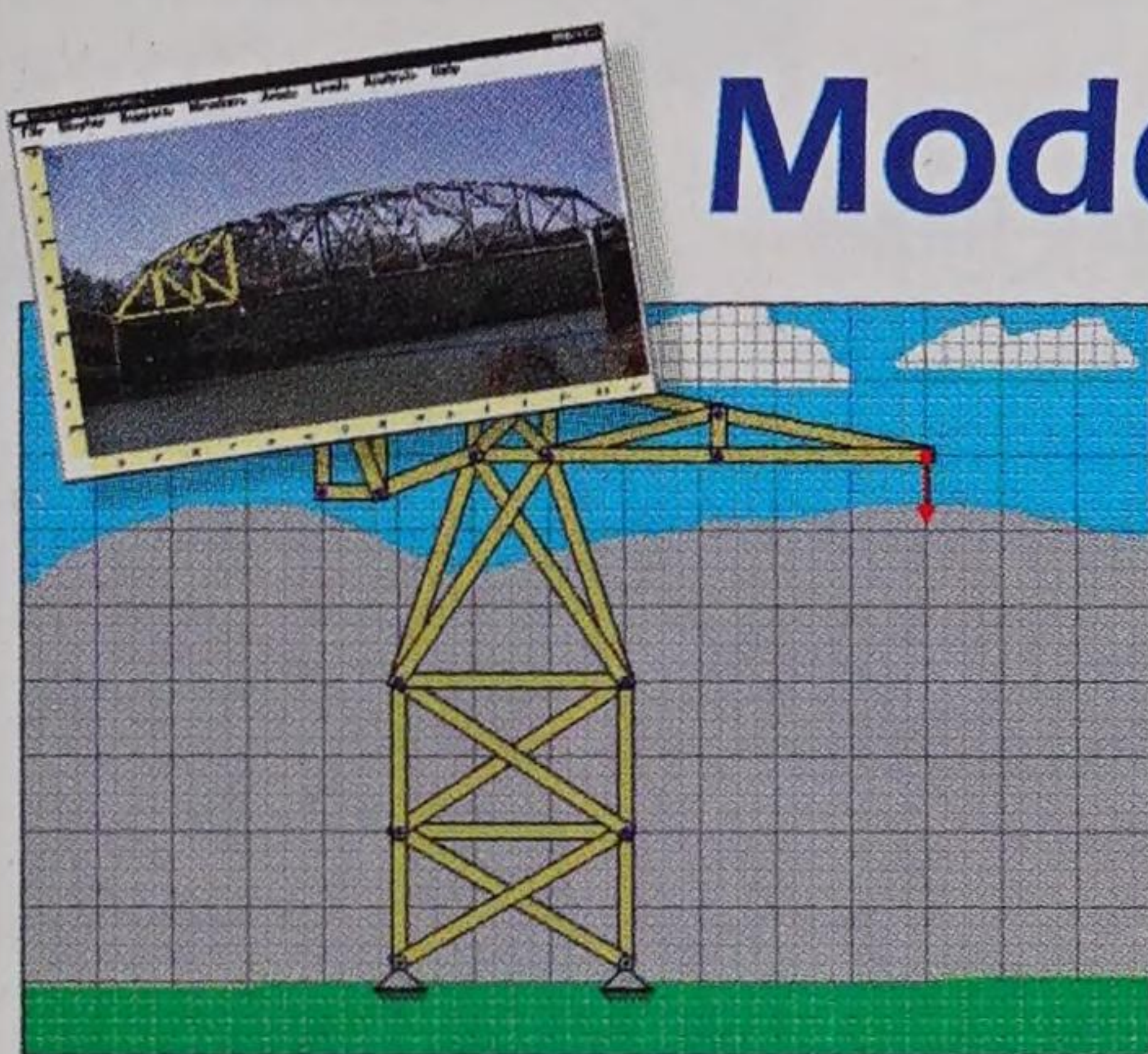
Paperback, 30 pages.

Teacher's Resource

**D754924—\$10**



## ModelSmart



structural design ideas before they begin building with real materials! Designed to introduce middle school and high school students to basic engineering concepts and reinforce math and science skills.

- Lab Pack license for use on five computers.
- School Pack license for use on 25 computers.
- Net Pack license for use on 1-30 station network.

**D754648 Windows—\$80**

**D754650 Macintosh—\$80**

**D754651 Win School Pack—\$695**

**D754652 Mac School Pack—\$695**

**D754653 Win Lab Pack—\$350**

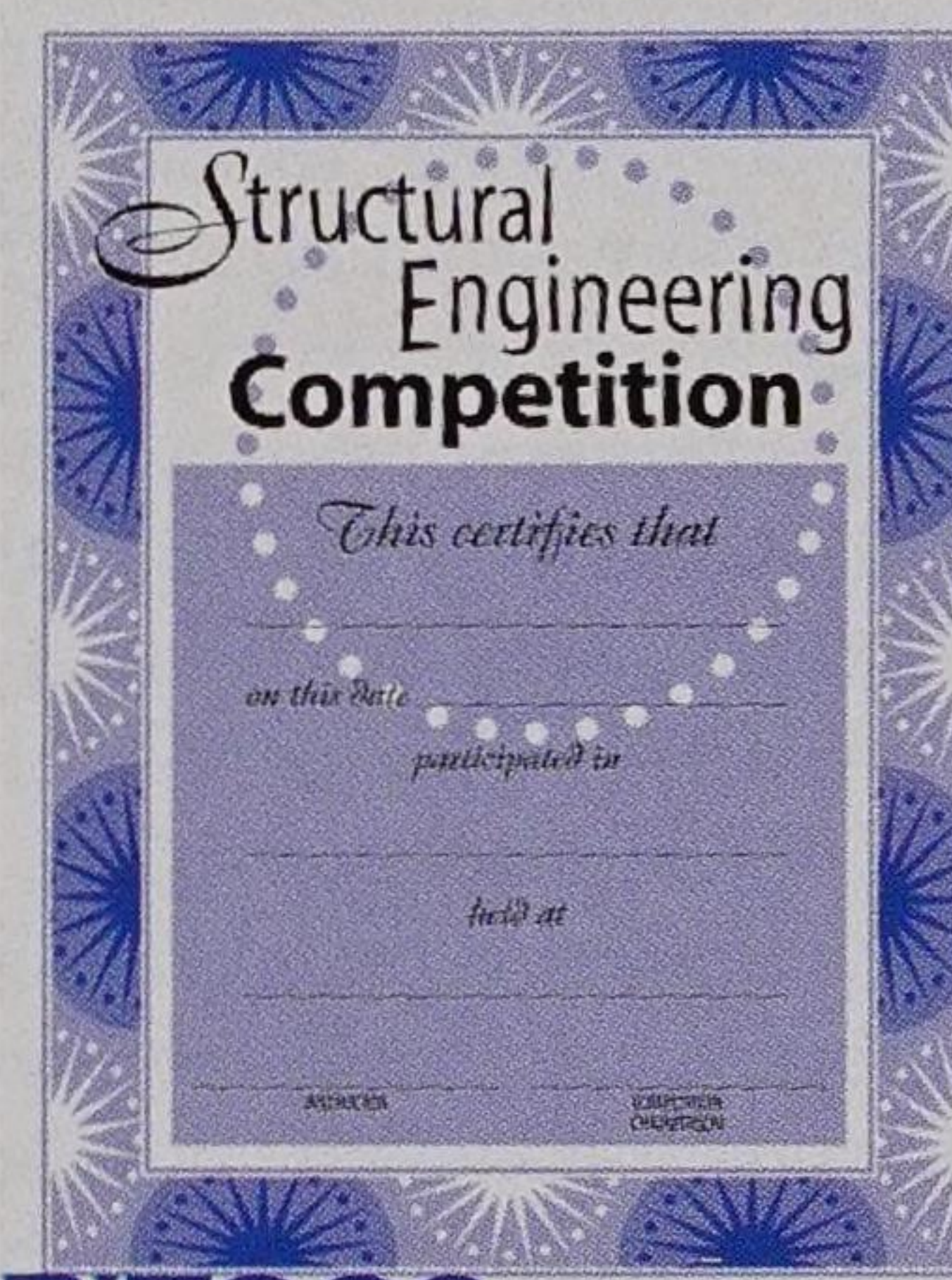
**D754654 Mac Lab Pack—\$350**

**D756187 Win Net Pack—\$795**

**D756188 Mac Net Pack—\$795**

## MODELSMART

*ModelSmart* allows students to interactively design balsa and basswood models of bridges, cranes, towers, and all kinds of structural systems on the computer! *ModelSmart* then analyzes the model, gives numerical results, and simulates the results by showing a deflected shape or collapse. Students can explore



**PITS CO**  
INNOVATIVE EDUCATION

## STRUCTURAL ENGINEERING COMPETITION CERTIFICATES

Recognize students who compete in structural competitions!

**D754641 (pkg of 25)—\$3.95**



## BRIDGE BUILDING MEDALS **PITS CO** INNOVATIVE EDUCATION

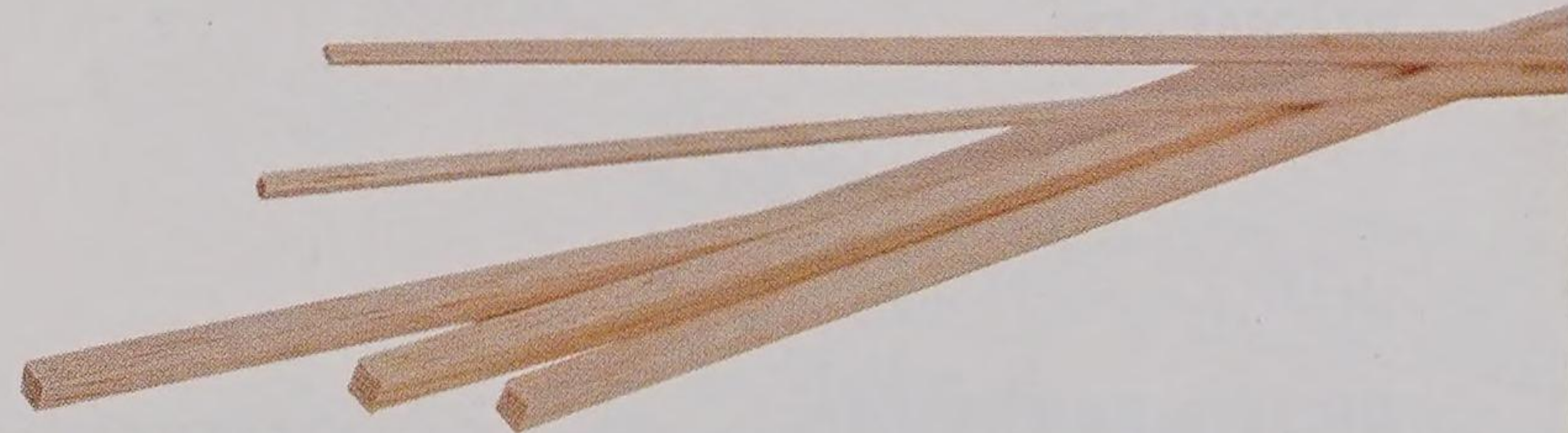
A great way to reward students for superior design and construction of model bridges. First-, second-, and third-place medals are 1-1/2" in diameter and feature a pin-on ribbon.

**D751752 Gold**

**D751753 Silver**

**D751754 Bronze**

**\$7.95 each**



## BALSA STRIPS

Use these balsa strips for bridge and tower building and other structural engineering projects.

**D752732 (1/8" x 1/2" x 36" - 25 pcs)—\$16**

**D752733 (1/4" x 1/4" x 36" - 25 pcs)—\$14**

**D752734 (1/8" x 1/8" x 36" - 50 pcs)—\$13**

**D752735 (3/8" x 3/8" x 36" - 15 pcs)—\$17**

**D751730 (3/32" x 3/32" x 24" - 50 pcs)—\$7.95**

**D754655 (1/16" x 1/16" x 24" - 50 pcs)—\$6.95**



# AQUAPORT

**PITSCO**  
INNOVATIVE EDUCATION.

## AQUAPORT LAUNCHER

Water rocketry is one of the most exciting hands-on science activities we've seen. Converting empty plastic soda bottles into high-flying rockets provides a great opportunity for students to discover important scientific principles such as Newton's Laws, acceleration, thrust, and inertia.

The AquaPort is the safest and most consistent way to launch water rockets. It accepts 2-liter, 20-oz., and many 1-liter bottles. The innovative three-finger latch securely holds the pressurized rocket in place until you pull the launch cord. A safety pin prevents accidental launches; the low-effort release and stable base add to its safety. The AquaPort accepts rockets with low-hanging fins, and breaks down for complete portability.

For a super-economical activity, pressurize your rockets with a bicycle pump. With no engines to buy, you can launch your rockets again and again! Or, buy one of the handy accessories below and launch bottle rockets using either a compressed air source or CO2 cartridges.

**D755499 AquaPort Launcher—\$139**

## GAUGE/MANIFOLD ACCESSORY

While the *Gauge/Manifold Accessory* is a must for using compressed air sources with the AquaPort, it's also very handy for use with a bike pump. The built-in relief valve limits bottle pressure to a safe 90 psi (preventing bottle ruptures), and the precision gauge provides accurate bottle pressure readings. Also features an in-line check valve.

**D719981—\$89**

## DELUXE PORT PUMP (SHOWN)

This top-notch bike pump will withstand years of use. It features all-metal construction and a heavy-duty rod that resists bending. Pumping a bottle rocket is less work with this pump because of precision seals that prevent internal leaking. Also features a top-mounted pressure gauge, a locking hose end, and a contoured, rubberized handle.

**D719978—\$69.95**

## ECONO-PORT PUMP

This is a sturdy but economical tire pump.

**D755706—\$19.95**

Allows for oversized, low-hanging fins. Many launchers don't!

Launch safety pin prevents accidental launches.

Three-finger release system releases rockets with less friction, so they fly higher and straighter!

Unique plug system allows the rocket to be mounted on the launcher without losing water.

Stable three-leg base disassembles for easy storage.



**Call Toll Free!**  
**800-362-4308**



## A. BOTTLE ROCKET SMORGASBORD



The *Bottle Rocket Smorgasbord* is a great starter pack for advanced bottle rocketeers! Students can supply their own 20-ounce, 1-liter, or 2-liter bottles (and a little ingenuity) and use them to construct their own high-performance bottle rockets. Enough to build 25 rockets.

The *Smorgasbord* contains a veritable cornucopia of materials – transition and nose cone templates, Ping-Pong™ balls, three types of fin materials, body tubes, string, sandpaper, parachute reinforcement rings, and more. Not for internal consumption.

**D755749—\$59**

## B. STRATOBLOASTER BOTTLE ROCKET KIT



This fantastic kit has all the materials students need to build a high-flying bottle rocket! It's a great way to introduce them to building bottle rockets, giving them a measure of initial success with a proven design.

The innovative design features a 20-ounce plastic soft drink bottle that functions as a propellant tank, and a Ping-Pong™ ball that works as a nose cone and recovery system.

**D755746 (no CO<sub>2</sub> cartridge)—\$4.95      10 for \$45      100 for \$420**

## C. R2K BOTTLE ROCKET KIT



R2K – Rocket 2000 – for the new millennium! With the *R2K Bottle Rocket Kit*, you supply the bottle (20-ounce or 2-liter) and a cool-melt glue gun, and we supply everything else your students need to construct a bottle rocket: body tube, transition cones for 20-ounce and 2-liter bottles, fin material, nose cone, and even sandpaper for roughing the plastic before cool-melt gluing the fins on the rocket. Once completed, use Pitsco's *AquaPort* launch system to launch the rockets to 200 feet or more!

**D720758—\$3.45**  
**10 for \$31      100 for \$279**

## R2K CLASSROOM PAK



Bottle rockets for the whole class!  
The *R2K Classroom Pak* contains materials to make 25 R2K – Rocket 2000 – bottle rockets. Have students recycle 20-ounce or 2-liter bottles from home, and have cool-melt glue guns available for use during assembly. Bulk packed to save you money.

**D720759—\$65**  
**10 for \$585**

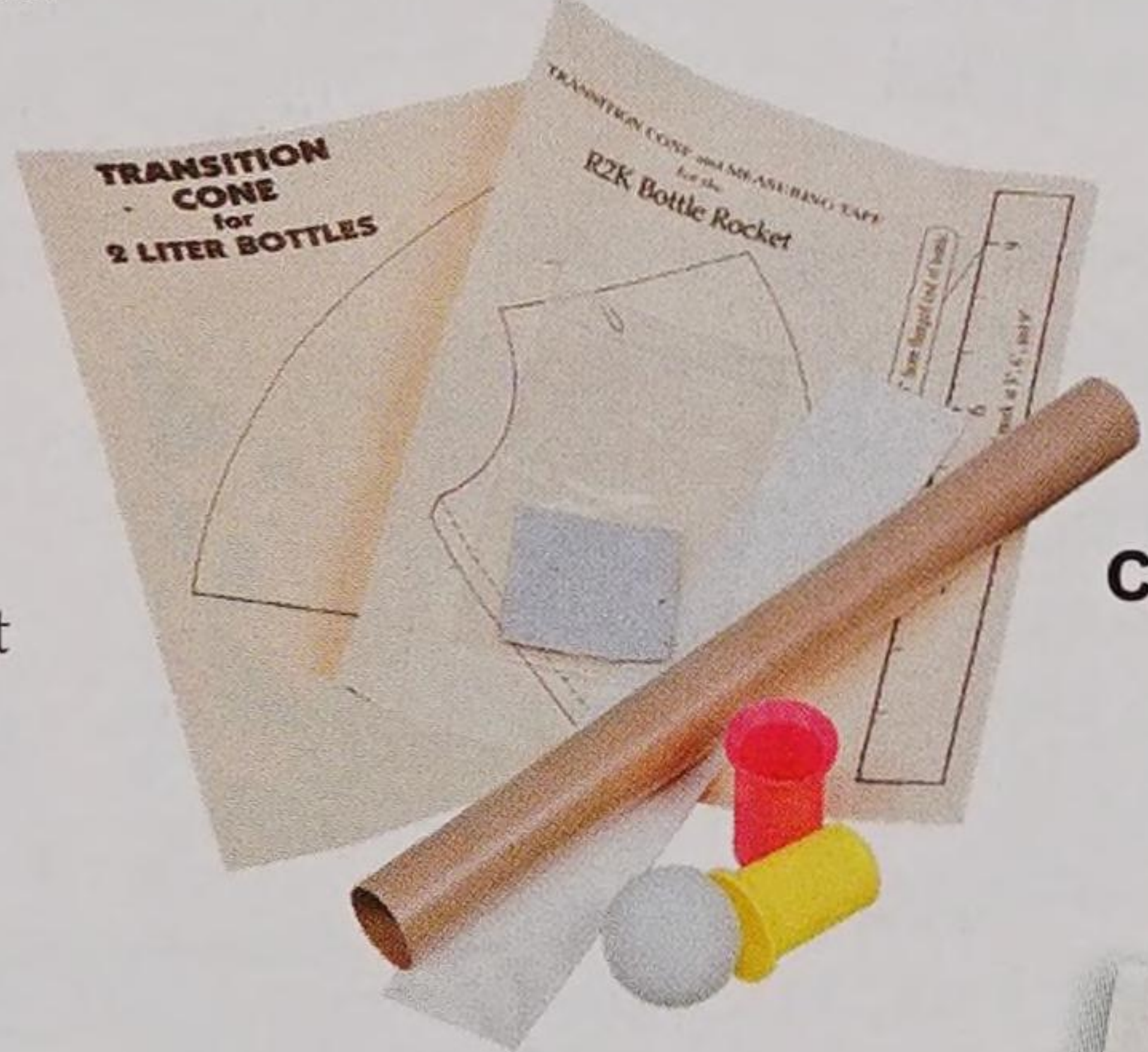
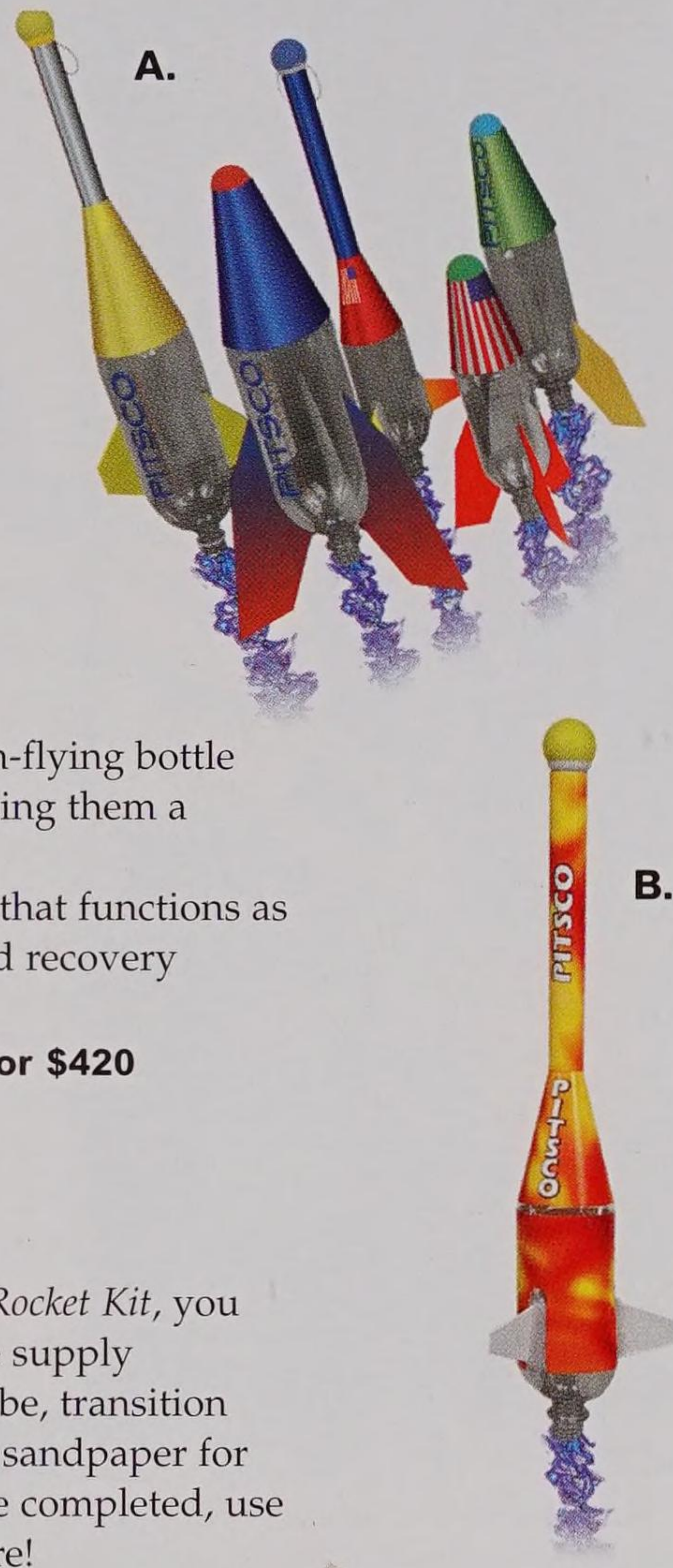


## BOTTLE ROCKET VIDEO



This video guides students through the construction and launch of the Pitsco *StratoBlaster* bottle rocket. They'll learn about the action/reaction principle of rocket thrust and how bottle rockets work much like NASA's rockets! The basic parts of rockets and the three basic forces that affect rocket flight are explained. Time: 12 minutes.

Level: Middle School-High School  
**D755131—\$29.95**



- AquaPort ..... 74-75
- Straw Rocket Launcher..... 78-79
- Hot-Air Balloon Launcher..... 80-81
- Kite Explore-A-Pak .. 82

## STANDARDS

These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site:  
[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

### Ideal Classroom Setup

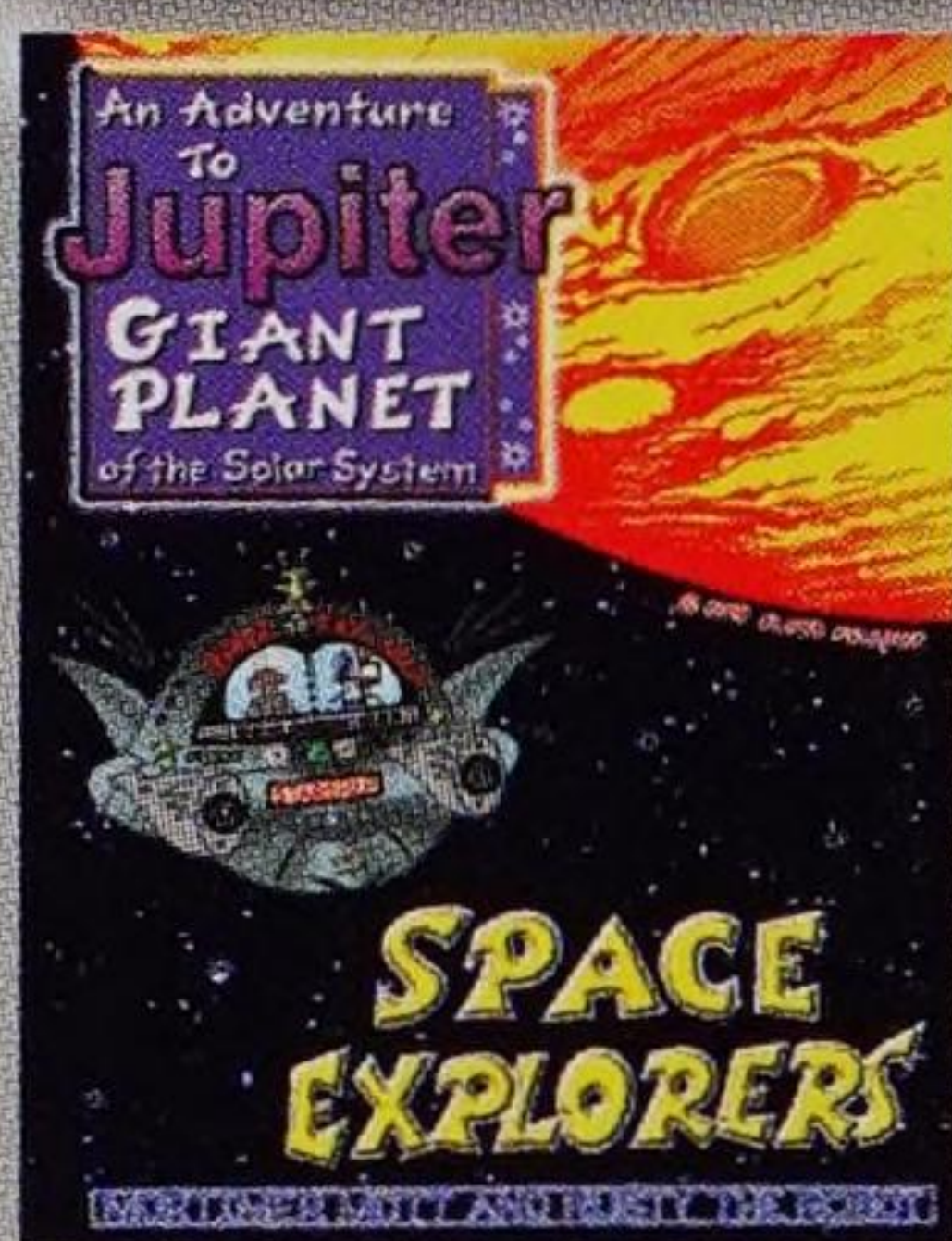
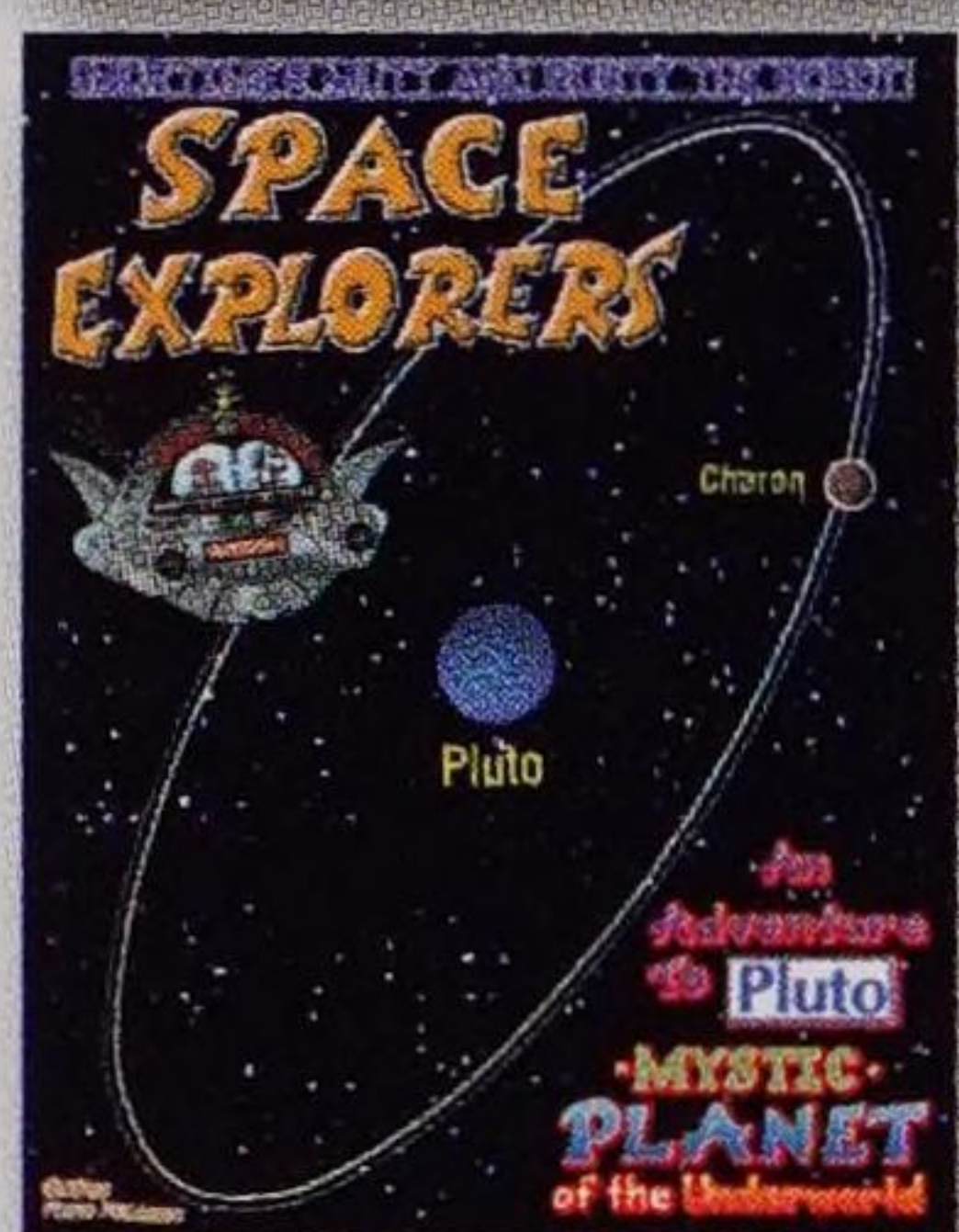
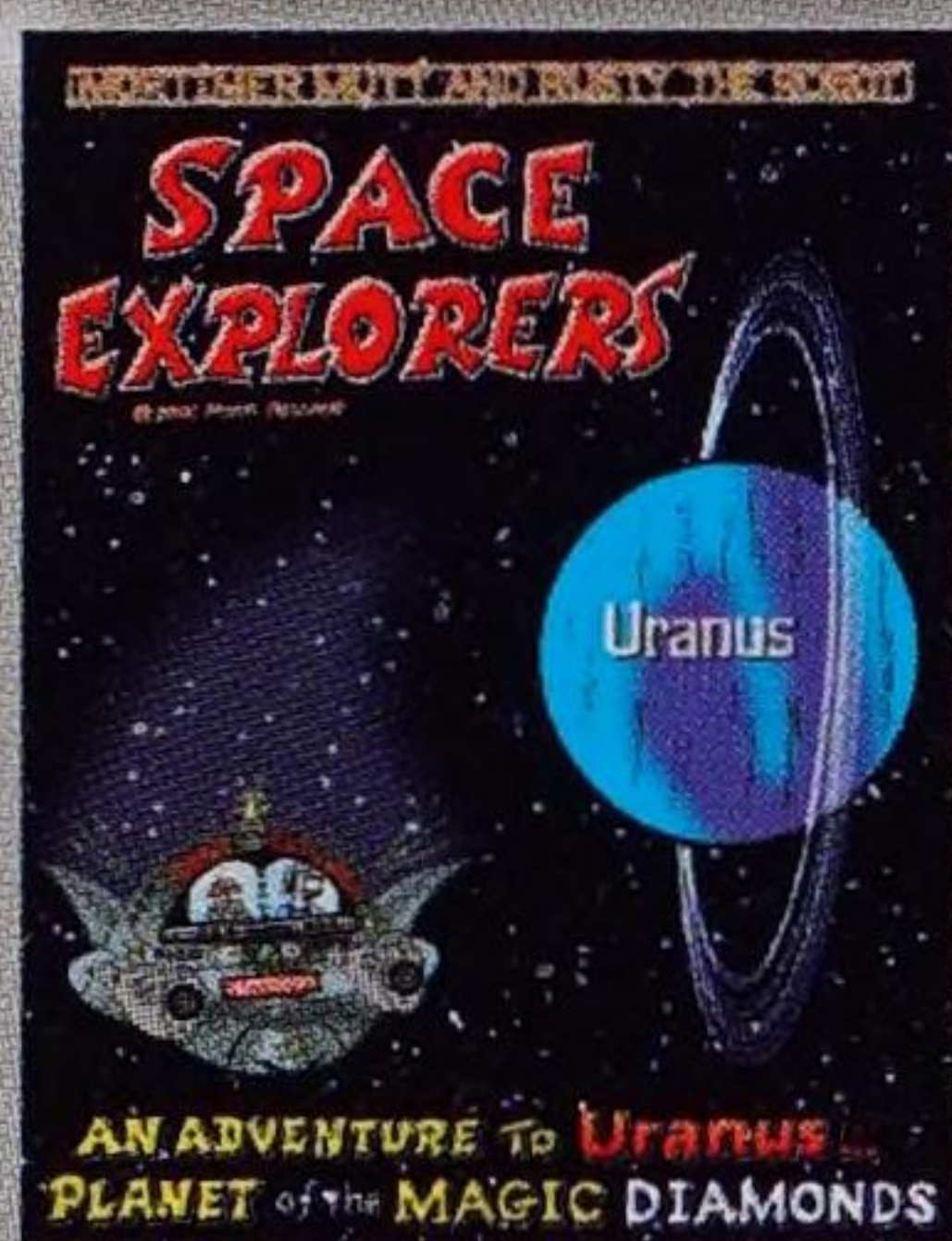
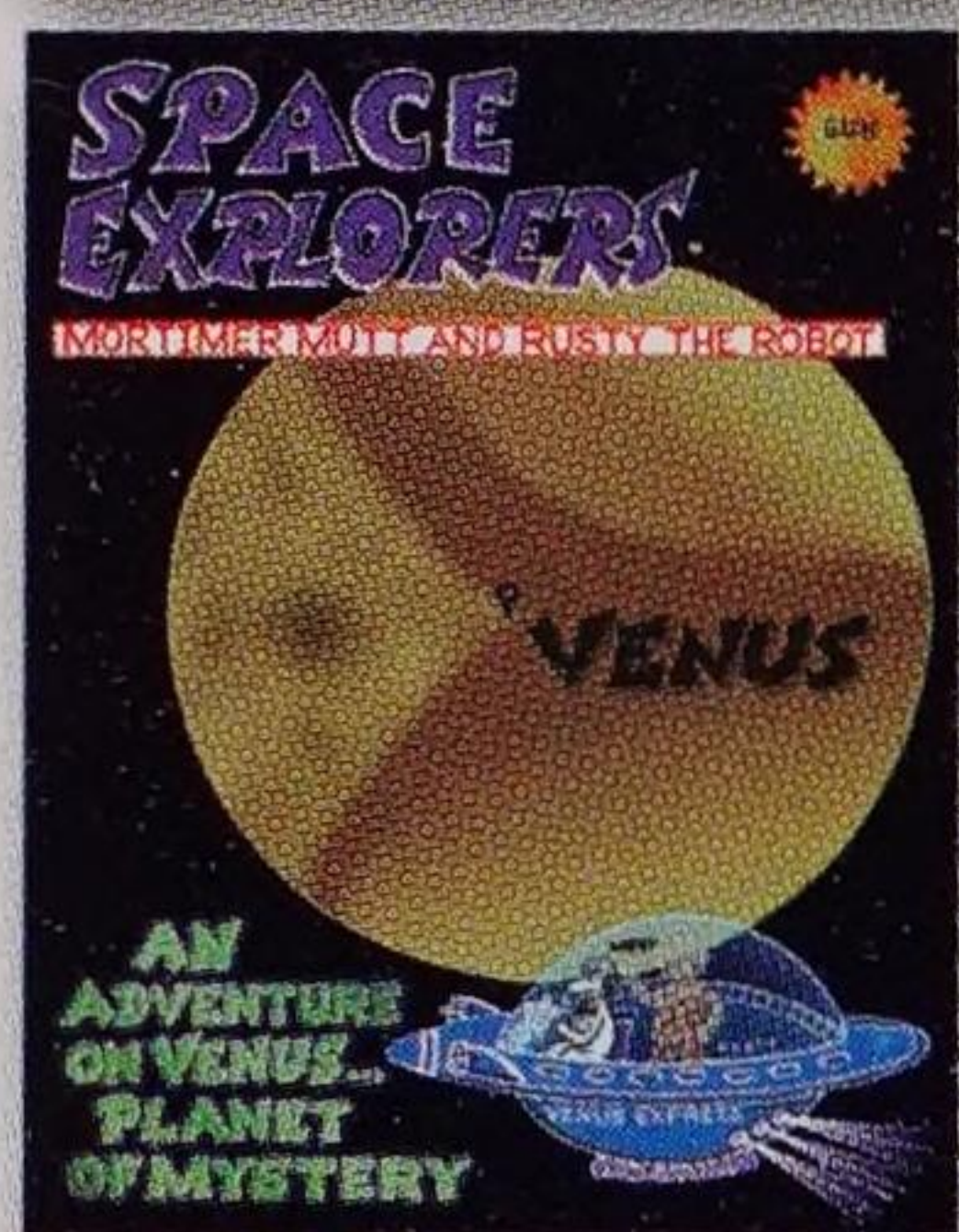
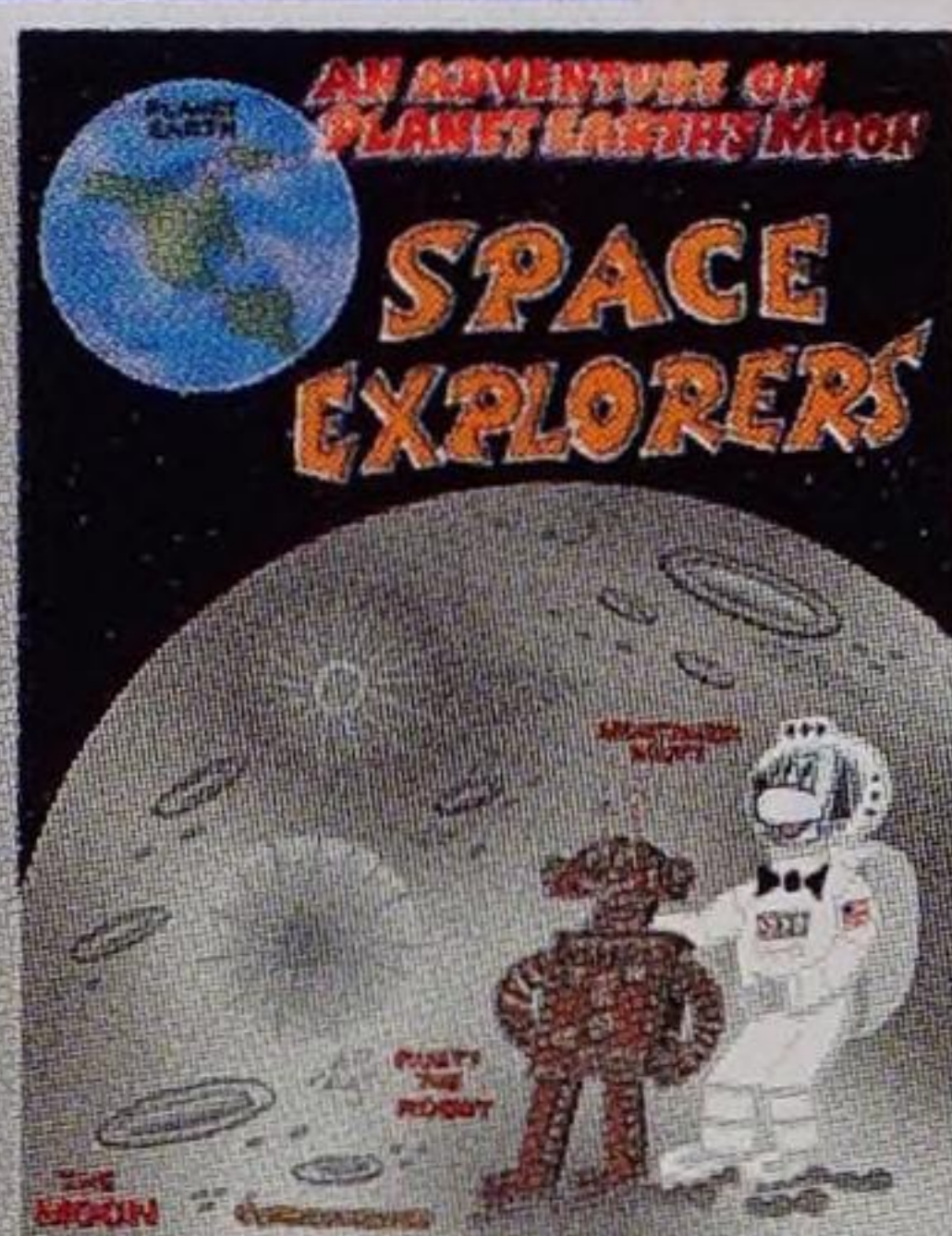
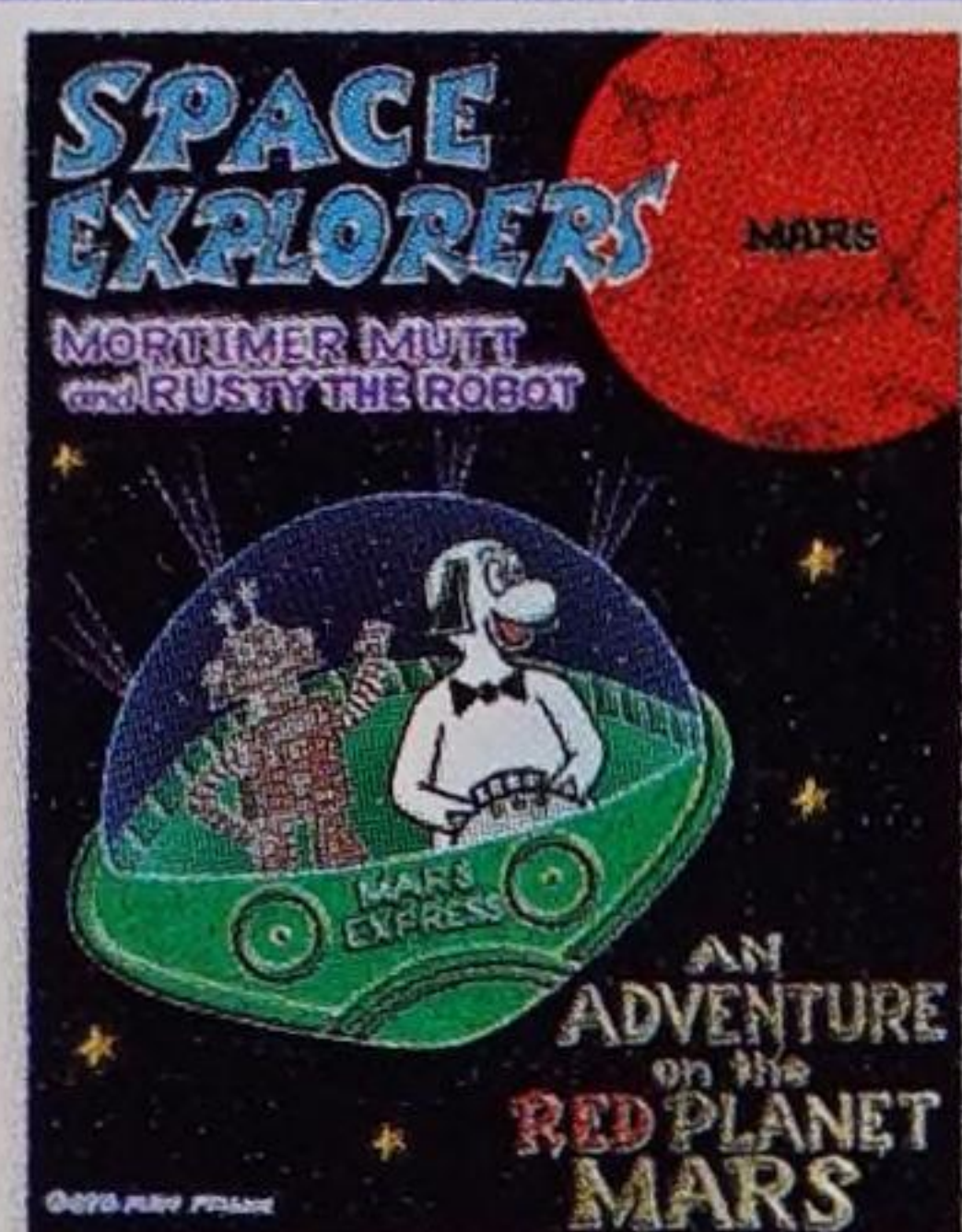
for 24 students

- 1 - AquaPort Launcher (D755499)
- 1 - Deluxe Port Pump (D719978)
- 1 - Kestral Wind Meter (D754910) pg. 77
- 4 - Pumpers (D751995) pg. 77
- 4 - Cool Melt Glue Guns (D752064) pg. 77
- 1 - Cool Melt Glue Slugs\* (D752061) pg. 77
- 25 - StratoBlaster Kits\* (D755746)

**Total: \$524.80**  
plus shipping

\* Consumables





### SPACE EXPLORERS COMICS

Ride along with Mortimer Mutt, Rusty the Robot, and other characters while learning about space, space exploration, and science. Young students will enjoy coloring the illustrations in these books.

Level: Intermediate

D990014 Space Explorers: MARS, 21 pages

D990015 Space Explorers: MERCURY, 21 pages

D990016 Space Explorers: PLANET EARTH'S MOON, 21 pages

D990017 Space Explorers: VENUS, 22 pages

D920508 Space Explorers: URANUS, 24 pages

D920507 Space Explorers: SATURN, 24 pages

D920510 Space Explorers: PLUTO, 24 pages

D920506 Space Explorers: JUPITER, 24 pages

D920509 Space Explorers: NEPTUNE, 24 pages

\$2.95 EACH

### SPACE EXPLORERS COMICS TEACHER'S GUIDES

Once you capture children's imagination with *Space Explorers Comics*, you can maximize their learning with these valuable teacher's guides. They are filled with activities, vocabulary words, fascinating facts to share with students, lessons, puzzles, coloring pictures, and more.

D920499 Planet Earth's Moon Teacher's Guide

D920500 Venus Teacher's Guide

D920502 Saturn Teacher's Guide

D920504 Neptune Teacher's Guide

D920498 Mercury Teacher's Guide All Guides \$1 EACH

D920497 Mars Teacher's Guide

D920501 Jupiter Teacher's Guide

D920503 Uranus Teacher's Guide

D920505 Pluto Teacher's Guide

### SPACE EXPLORERS PACKAGE

Includes all Asimov videos, comic books, and teacher's guides on this page.

D990082—\$234

**PITSCO**  
INNOVATIVE EDUCATION

**EXCLUSIVE**

**EXCLUSIVE**

**PITSCO**  
INNOVATIVE EDUCATION



### ISAAC ASIMOV'S INNER AND OUTER PLANETS VIDEOS

These fascinating videos shed light on all the planets in the galaxy we Earthlings call home, the Milky Way. The concise format of the videos will hold students' attention while giving them a basic, well-rounded knowledge of the planets.

In addition to fascinating scientific facts, the videos address intriguing issues such as: How did ancient civilizations perceive these mysterious heavenly bodies? How were they identified and observed by the early explorers? What was learned about the planets in past space missions? And finally, what does the future of humankind's space endeavors hold in store for the planets? Teacher's guide included with each video. Time: 9-15 minutes.

#### The Inner Planets

D956175 The Earth's Moon

D956173 Mercury: The Quick Planet

D956174 Venus: A Shrouded Mystery

D956176 Mars: Our Mysterious Neighbor

#### The Outer Planets

D956177 Jupiter: The Spotted Giant

D956178 Saturn: The Ringed Beauty

D956179 Uranus: The Sideways Planet

D956180 Neptune: The Farthest Giant

D956181 Pluto: A Double Planet

\$24.95 EACH

For grant resources and correlations to state standards go to

[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

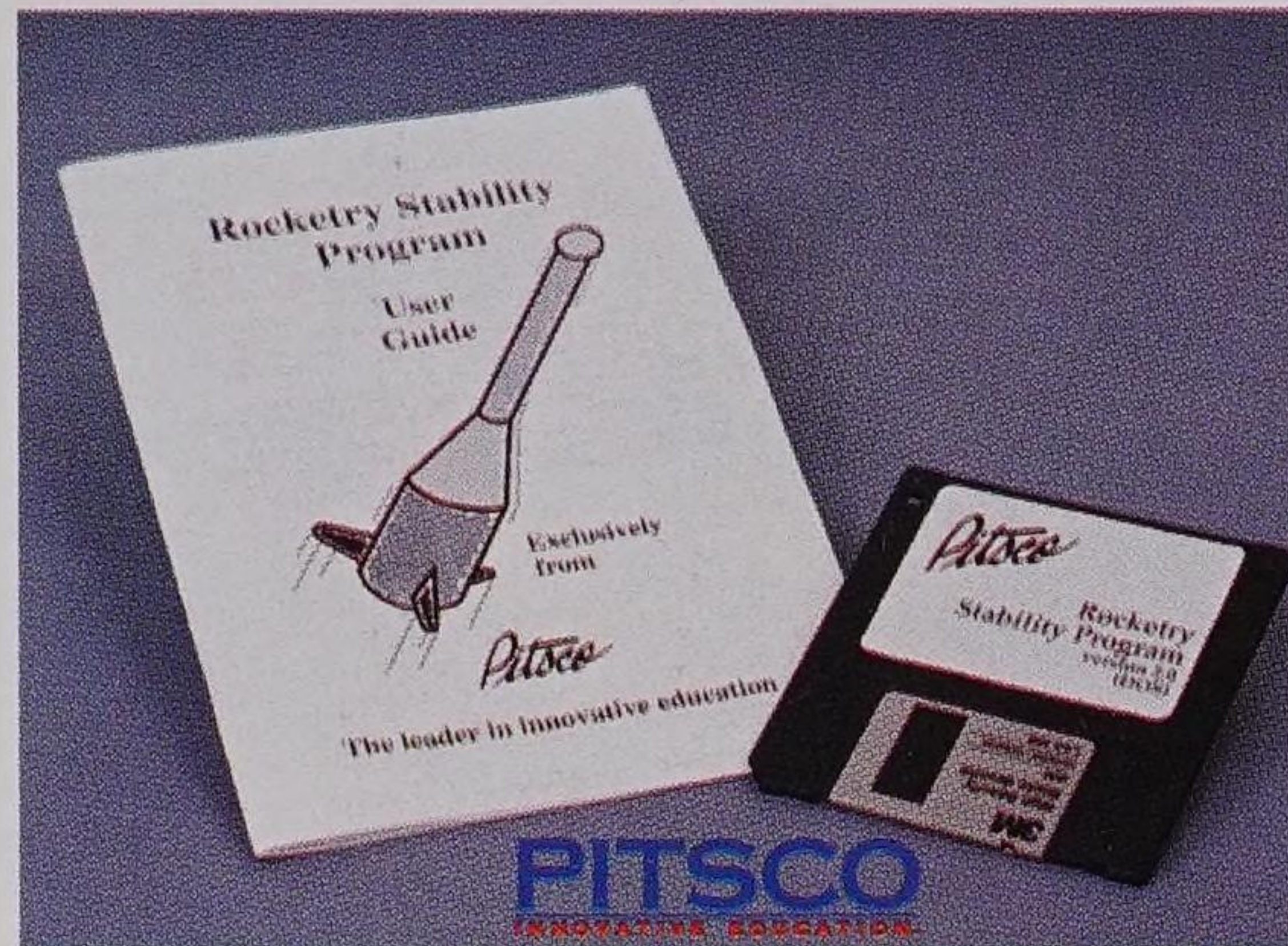
**FreeFax™ Orders!**  
**888-534-6784**



## KESTREL POCKET WIND METER

Get accurate, fast, and easy wind speed measurements anywhere, anytime. The *Pocket Wind Meter* features a large LCD window that is easily read and offers three modes: wind speed, average wind speed, and maximum wind speed. An ultralight anodized aluminum impeller yields high accuracy (within 3%) and a low start-up speed. The rugged unit is waterproof and floats. Includes a lanyard and a hard case that easily snaps on and off. Battery included!

**D754910—\$109**



## ROCKETRY STABILITY PROGRAM

This software is an excellent addition to any water rocket design project. It provides a calculated, preflight prediction of any water rocket design's flight performance.

*Rocketry Stability Program* prompts you to input specific details of your design dimensions, nose cone shape, number of fins, location of CG, and so on. The program will then complete a mathematical analysis of your design's stability. You can even make "virtual design changes" to see how they affect flight performance.

**D713467 DOS—\$25**

## COOL-MELT GLUE GUN

This gun uses glue that melts at a lower temperature than glue in ordinary glue guns. Due to the lower temps, it is safer for young hands and will not melt through plastic bottles and many plastic parts. Uses oval-shaped glue slugs that cannot be confused with hot-melt slugs.

**D752064—\$15.95**

**D752061 Oval Glue Slugs (30 in pkg)—\$6.30**



## THE PUMPER

This device was created to keep your soda fizzy, but it's also extremely handy when building bottle rockets. Pump the bottle before marking for fin placement or attaching fins. The air pressure will keep the bottle rigid, making the task much easier.

**D751995—\$3.25**



## ASTRONAUT FOOD SERIES

Now you and your students can enjoy the same food that is served in a lofty place with real atmosphere. These freeze-dried delicacies are similar to those eaten by U.S. astronauts on past and present space missions.

**D754120 Cheese Pizza—\$3.00**

**D754073 Neapolitan Ice Cream—\$2.50**

**D754072 French Fries—\$1.95**

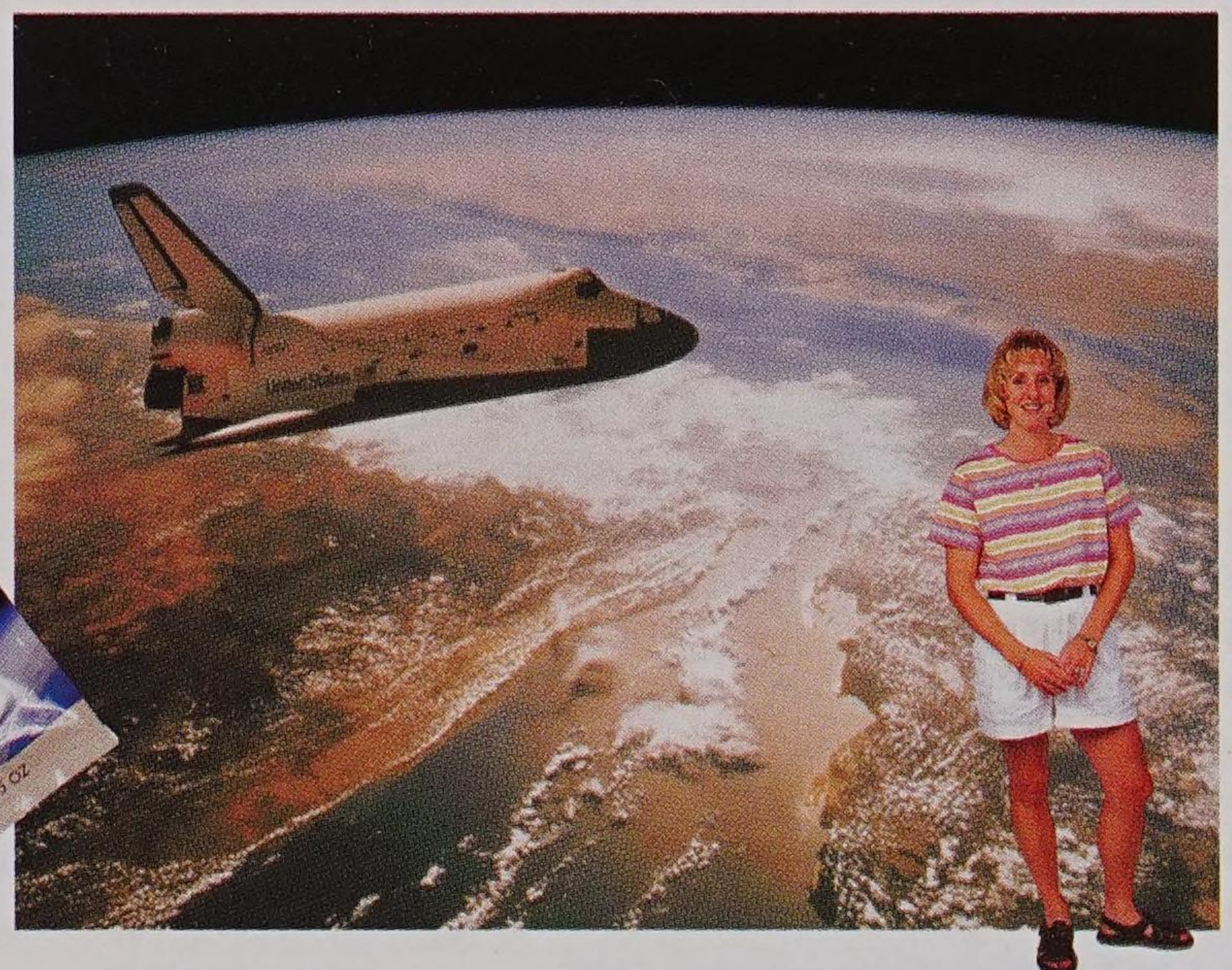
**D754007 Ice Cream Sandwich—\$2.95**

**D754114 Astronaut Ice Cream & Foods Book Package—\$3.95**

**D754855 Eggs/Applesauce Breakfast—\$5.95**

**D754857 Rice & Chicken Dinner—\$5.95**

**D754856 Vegetable Stew w/ Beef Dinner—\$5.95**



## SHUTTLE IN ORBIT WALL MURAL

This giant wallpaper mural creates an exciting learning environment for your students. Printed in full-color, it measures a big 8' 3" (h) x 13' 8" (w). Put the finishing touch on that blank wall you've been wanting to fill. Mural comes in eight separate rolls and is hung like regular wallpaper, using dry cellulose paste.

**D751462—\$69**




**PITSCO**  
 INNOVATIVE EDUCATION.

**STRAW ROCKET LAUNCHER**
**EXCLUSIVE**

Students can design and build their own miniature straw rockets and test them on the *Straw Rocket Launcher*! Just like early rocket pioneer Robert Goddard, they can conduct scientific experiments by varying the trajectory angle and launch energy. Rockets can be launched to distances up to 50 feet!

The *Straw Rocket Launcher* features extremely simple operation. No power or air source is required; the pneumatic force is developed by releasing a weighted drop rod in the cylinder. The force of the launch can be controlled by varying the release height of the rod.

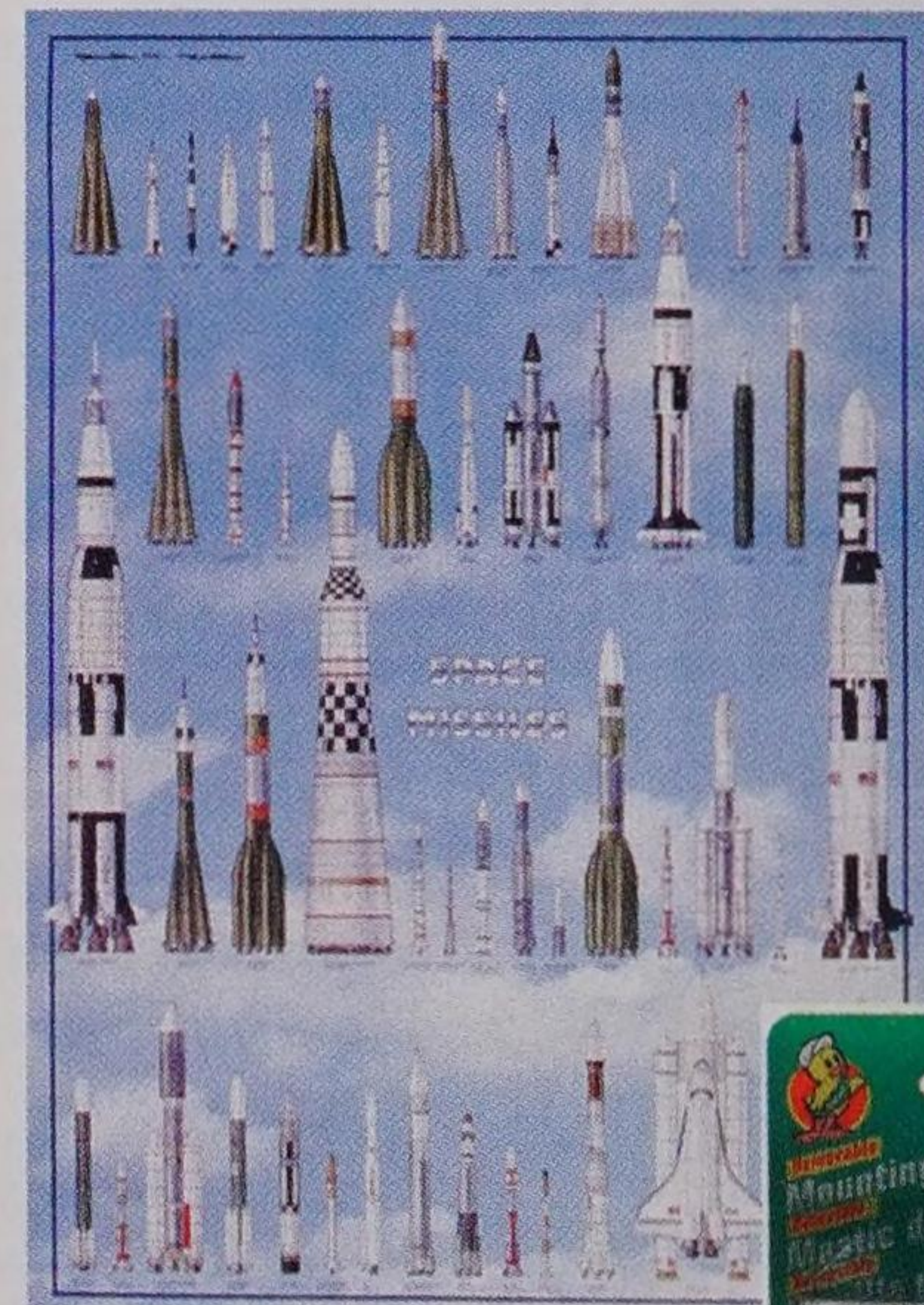
Building straw rockets is a fun, inexpensive activity and a great way to introduce students to rocketry. Use with 1/4" diameter straws. Recommended for use in a large, open indoor area, such as a gymnasium. Base size: 9" x 11". Height: 25".

**FEATURES**

- Launches up to 50 feet
- 1/4" diameter straws
- Simple operation
- Adjustable trajectory angle with angle gauge
- No power or air source required
- Clear tube displays internal parts
- Adjustable launch force

**D720426—\$139**
**PLASTIC STRAWS  
FOR STRAW ROCKETS**

Use these straws to build your straw rockets.

**D715909 Clear, 1/4" dia  
(250 qty)—\$3**
**D715910 White/red stripe,  
1/4" dia (250 qty)—\$3**

**SPACE ROCKETS**

27" x 38-1/2" poster

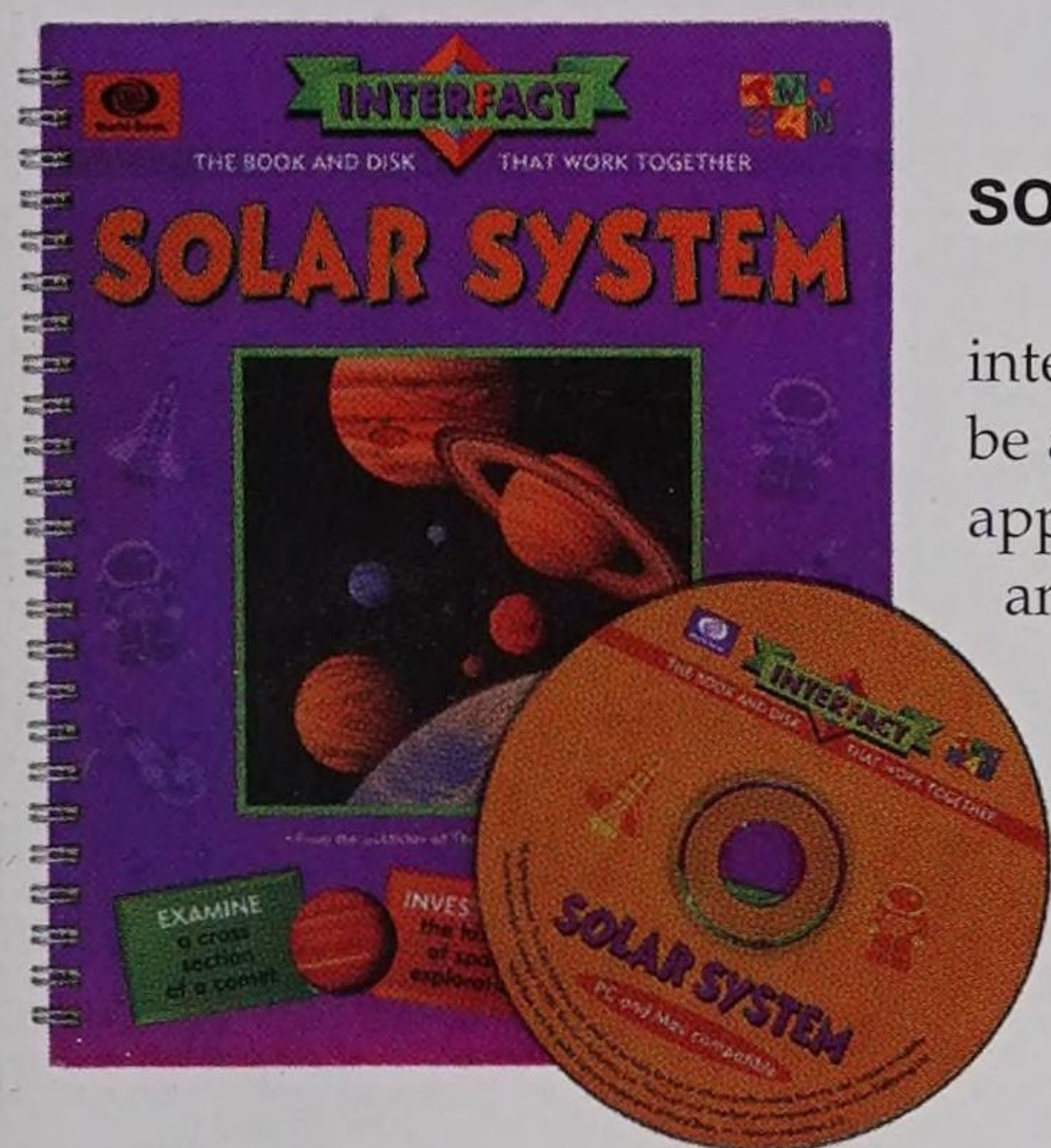
**D752715—\$6.75**

**POSTER TACK**

This mounting putty is great for mounting the nose cone on straw rockets.

**D990071 (2-oz pkg)—\$3**
**Order Online!**
**[www.pitsco-legodacta-store.com](http://www.pitsco-legodacta-store.com)**





## SOLAR SYSTEM



Explore the solar system with this interactive book and CD-ROM. Students will be able to read about the solar system and apply the readings to exciting games, puzzles, and experiments on the CD-ROM.

Level: Intermediate

D756131—\$14.95

## Straw Rocket Launcher

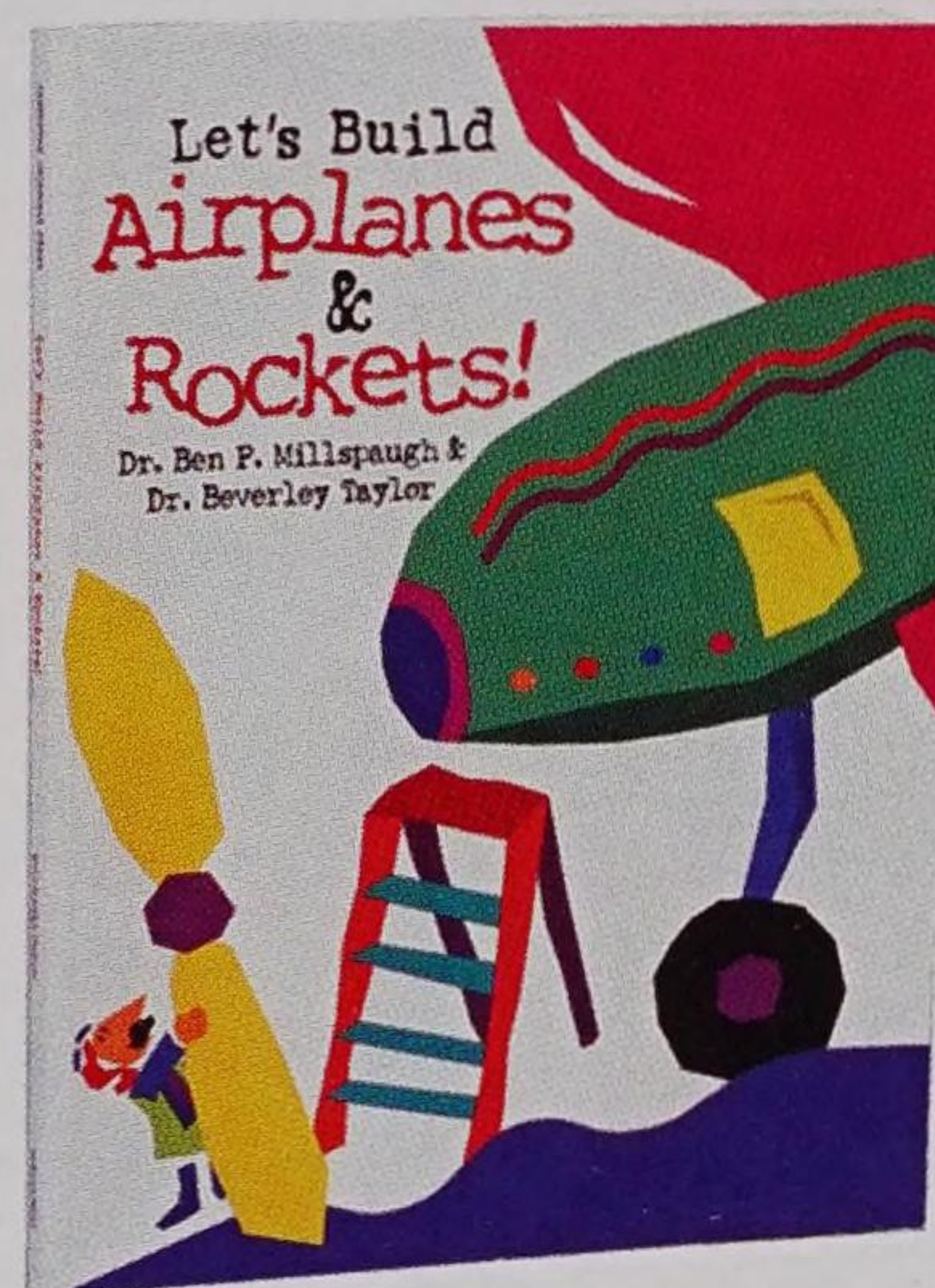
79

AquaPort . . . . . 74-75  
 • Straw Rocket Launcher . . . . . 78-79  
 Hot-Air Balloon Launcher . . . . . 80-81  
 Kite Explore-A-Pak . . 82

## STANDARDS

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[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

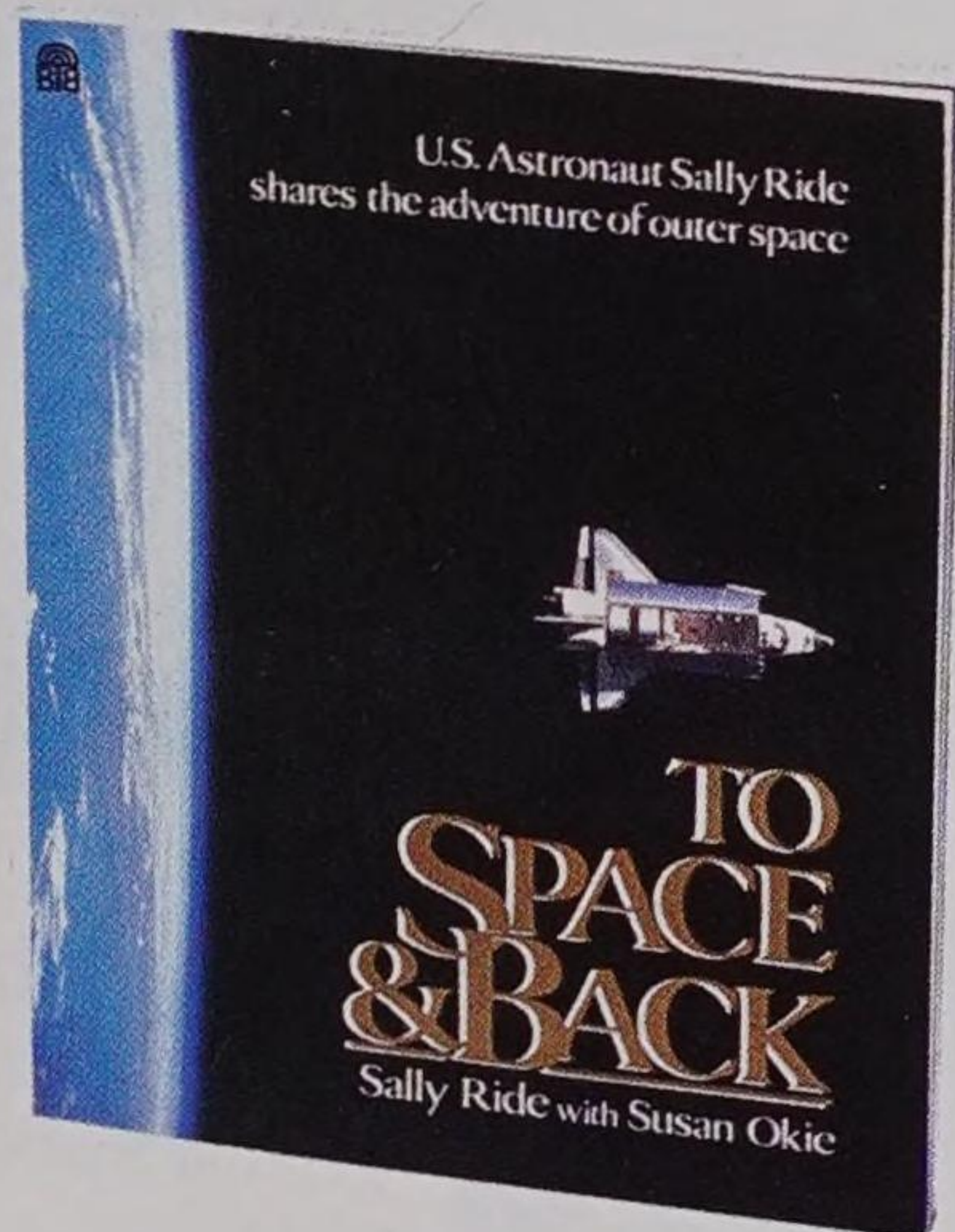


## LET'S BUILD AIRPLANES & ROCKETS

America leads the world in aerospace technology, so let's instill that national pride in our youth. These projects and the supporting text will give a hands-on visualization of the steps we've taken to reach the stars. Materials used are inexpensive and easy to obtain. This is truly a fun approach to education! Paperback, 131 pages.

Level: Elementary-Middle School

D754495—\$16.95



## TO SPACE & BACK

Sally Ride with Susan Okie

Students will obtain a "you-are-there" adventure into space as they accompany astronaut Sally Ride from blastoff, through space, and back to landing. This book gives a vivid description of the human side of exploring the adventure of space flight. Paperback, 96 pages.

Level: Intermediate-Middle School

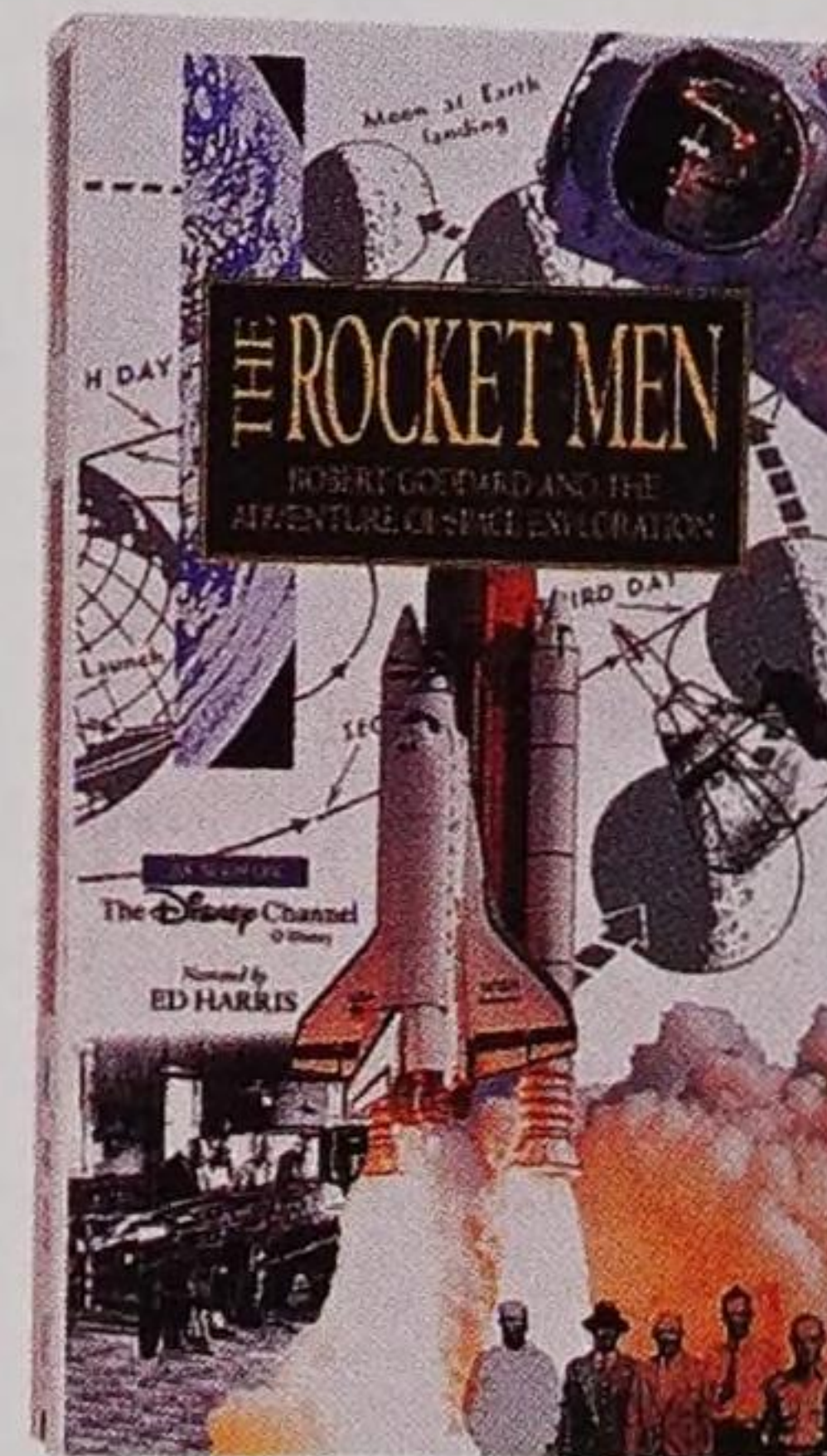
D752263—\$12.95

## THE ROCKET MEN

Experience the amazing story of Robert Goddard and the inventions that made space exploration possible! This wonderful production tells the story of Robert Goddard and the other scientific visionaries who developed the powerful rockets that play such an important role in our history. It is a story of frustration, perseverance, and brilliance that continues to stir our imagination. Journey to the "Final Frontier" with the men that made its exploration possible. Time: 60 minutes.

Level: Middle School-High School

D754094—\$29.95



**New**

## BIG ROCKET SHIP BULLETIN BOARD SET

Launch your students into space exploration with this bulletin board package containing a large, brightly colored rocket ship, plus 32 colorful space-themed pieces to be used as name tags, graph indicators, and more. A bonus handout contains suggested classroom activities and reproducible activity pages. Bulletin board not included.

D990217—\$7.95

**PITSCO** **LEGO** **dacta**  
 PARTNERS IN INNOVATIVE EDUCATION

**Ideal Classroom Setup**  
 for 24 students

1 - Straw Rocket Launcher (D710426)  
 1 - Box of 250 Straws\* (D715910)  
 5 - Poster Tack\* (D990071)

**Total: \$157**  
 plus shipping

\* Consumables





# 80 Hot Air Balloon Launcher



**PITSCO**  
INNOVATIVE EDUCATION

## HOT-AIR BALLOON LAUNCHER

Get your program off the ground with this quality launcher.

Your students will enjoy producing their very own hot-air balloons using tissue paper. With design details available in Pitsco's book, *Hot-Air Ballooning Student Guide*, this launcher provides the final link in successful balloon flights.

Designed with the student's safety in mind, the Pitsco Hot-Air Balloon Launcher inflates balloons with ease. The unit features a "cool-to-the-touch" chimney, a safety grate, a piezo-electric lighter, and connectors to attach the unit to standard propane canisters (not included).

**D713268—\$345**

## PROPANE CYLINDER FOR BALLOON LAUNCHER

**D752100—\$4.95**

*Additional charge for shipping required. See Policies page for explanation.*



## PORTABLE WIND METER (MPH)

Take the guesswork out of rocket launches, kite-flying sessions, hot-air balloon launches, glider competitions, or any other activity where the velocity of the wind is a factor. This handy unit measures the wind velocity with dual ranges (2-10 and 4-66 mph).

**D715557—\$16.50**



## HOT-AIR BALLOON EXPLORE-A-PAK

**PITSCO**  
INNOVATIVE EDUCATION

**EXCLUSIVE**

This activity is a lifting experience for you and your students! Everything is included for 30 students to make a fantastic hot-air balloon – multicolored tissue paper, glue sticks, string, and more. A gore pattern helps the students cut each balloon panel for a perfect fit. A student booklet about the history of hot-air ballooning, including puzzles, provides educational background for the activity.

**D990001—\$160**

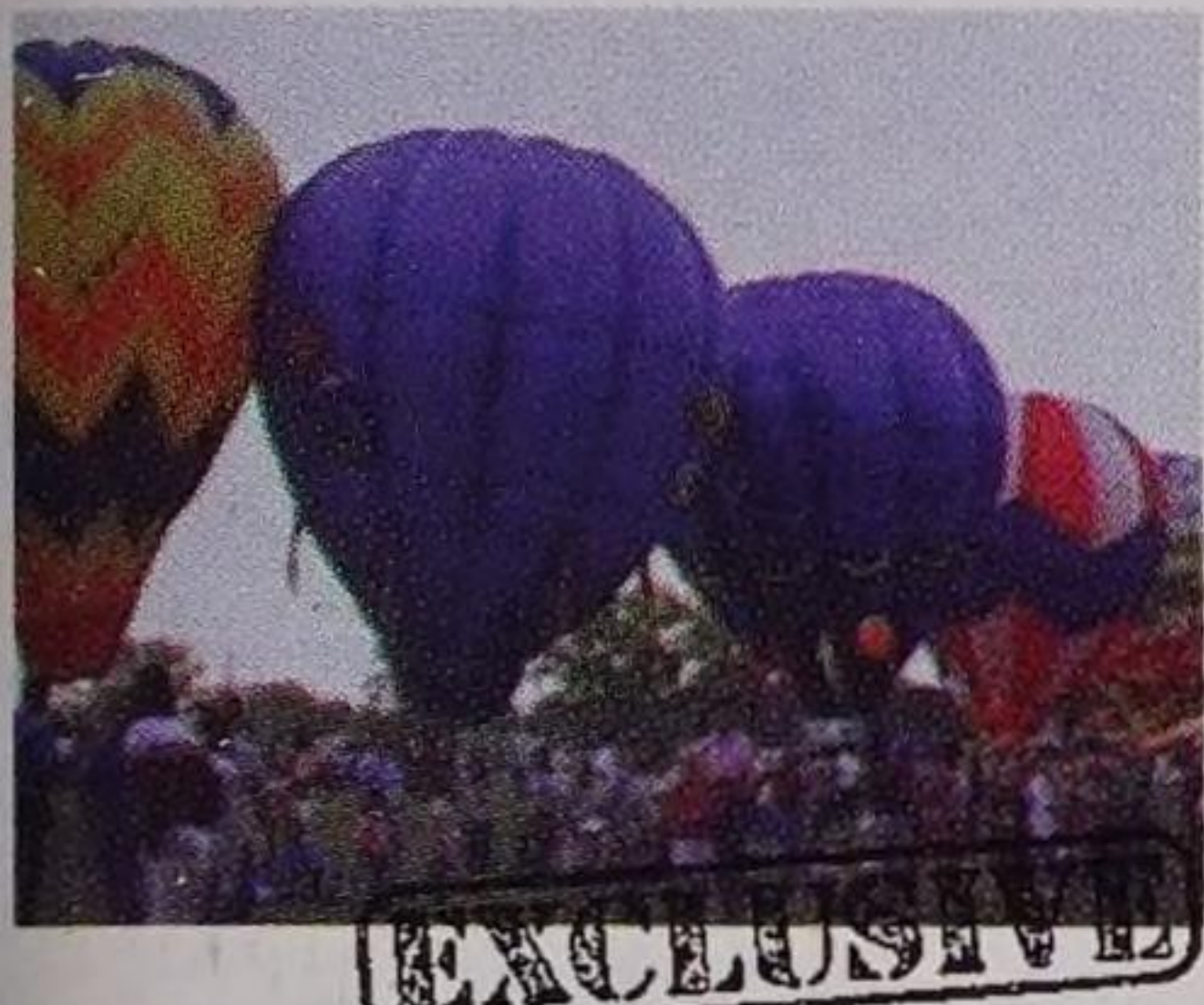
**Call Toll Free!**  
**800-362-4308**



## GORE PATTERN **EXCLUSIVE**

Use this pattern as a template to make hot-air balloons in your classroom! The pattern is 56" long and 10-1/2" wide at its widest point and is made of heavy, glossy paper. Make individual gore patterns for your students, then have them cut 10 gores from balloon paper to make their balloons.

**D990002—\$4.95**



## UP WITH BALLOONS

A humorous look at the history of hot-air ballooning and the basics of how a hot-air balloon flies.

Time: 10 minutes.

Level: Intermediate-Middle School

**D990005—\$29**

## HOT AIR BALLOON DESIGN & MAKE

Step-by-step instructions on how to make a 10-gore balloon from tissue paper are outlined in this video. The narrator takes the viewer through the entire process, from making a design on paper to cutting and gluing the gores to launching the balloon.

Time: 15 minutes.

Level: Intermediate-Middle School

**D990006—\$29**

## INDOOR BALLOON TESTER

**PITSCO**  
INNOVATIVE EDUCATION

Before the big launch outside, wouldn't it be nice to test student balloons in the confines of your school?

This innovative launcher will test-fly hot-air balloons safely and effectively. Because the unit runs on electricity, you don't have to worry about fumes from the unit. You will, however, need to have a heavy extension cord available (12 gauge recommended) for optimum performance.

Note: This unit is intended for indoor use only. For outdoor launches, purchase the Pitsco Hot-Air Balloon Launcher.

**D713263—\$79**



## HOT AIR BALLOONING TEACHER'S GUIDE

This guide covers the entire process of making and flying balloons. It demonstrates density, porosity, and expansion of heated air – science concepts important in hot-air ballooning. Paperback, 36 pages.

Teacher's Resource: Intermediate-Middle School

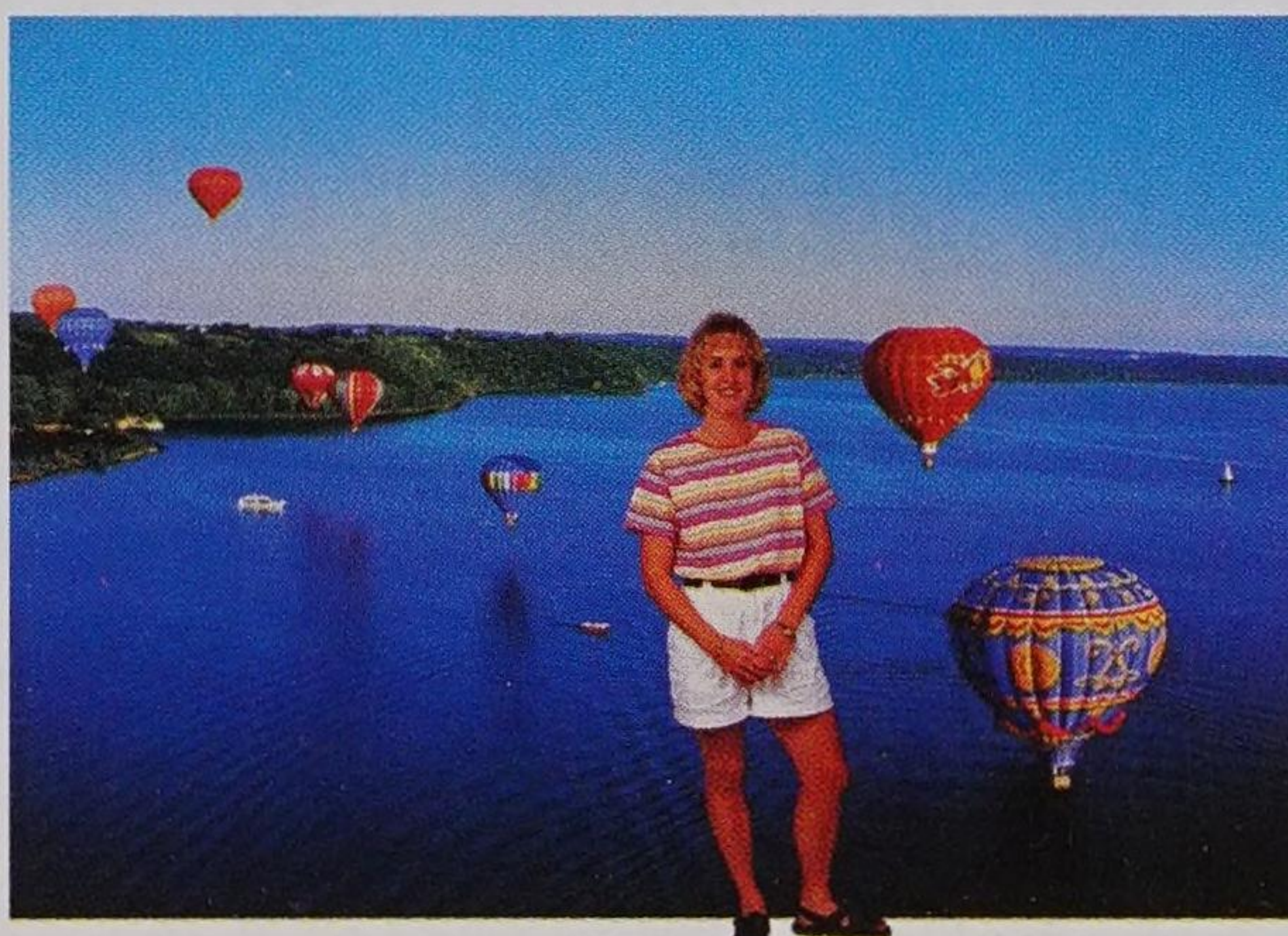
**D990004—\$9.95**

## HOT AIR BALLOONING STUDENT'S GUIDE

This guide includes simplified information on the history of ballooning, what makes balloons fly, the parts of a hot-air balloon, and the process of launching and flying a balloon. Paperback, 18 pages.

Level: Intermediate-Middle School

**D990003—\$2**



## BALLOONS IN FLIGHT MURAL

Lift your students to new heights with this bright, colorful wall mural. A great addition to balloon building, you can use this mural on one wall of your classroom as a motivational tool. Covers an area 8' 3" x 13' 8".

**D750889—\$69**

AquaPort . . . . . 74-75  
Straw Rocket Launcher . . . . . 78-79  
• Hot-Air Balloon Launcher . . . . . 80-81  
Kite Explore-A-Pak . . 82

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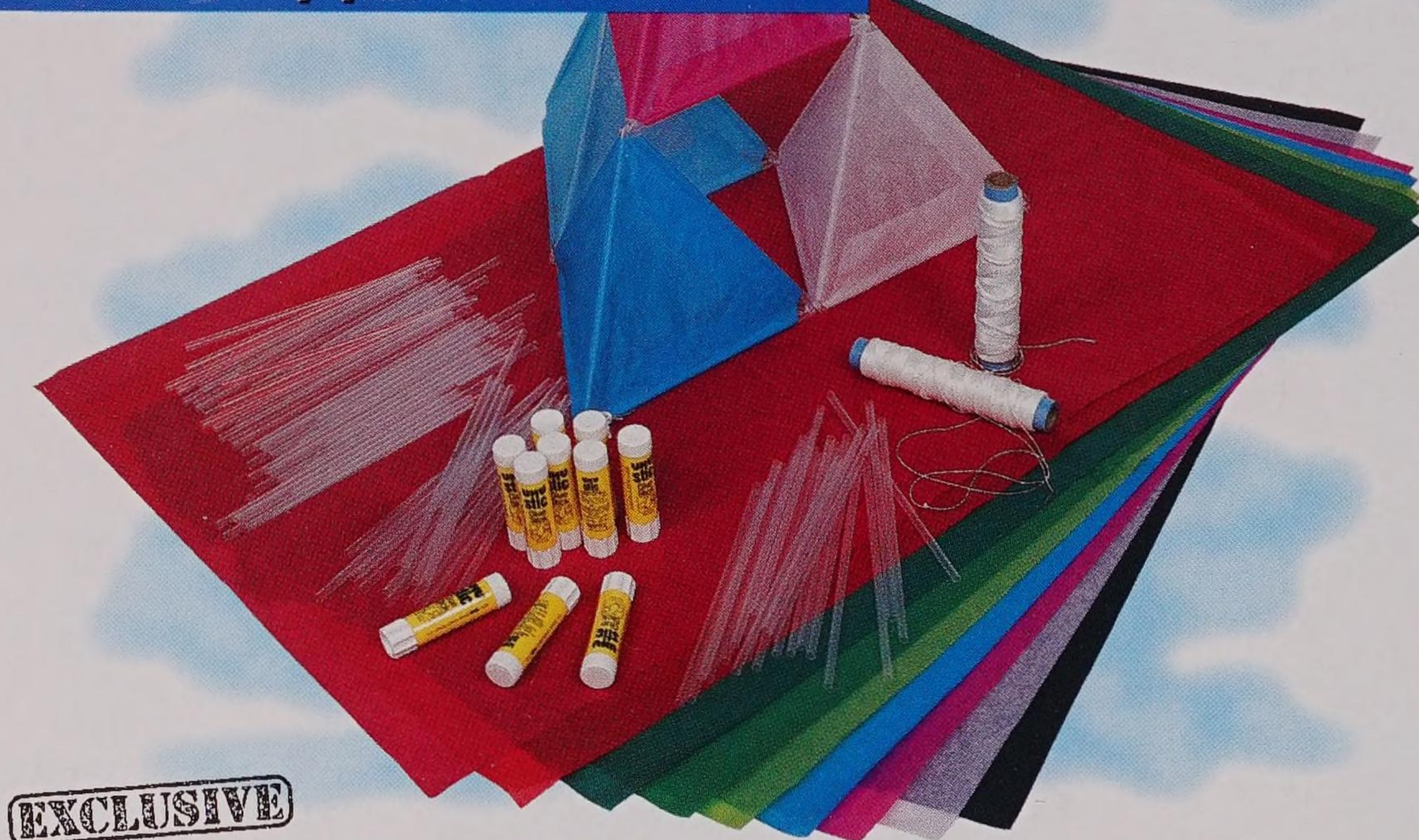
## Ideal Classroom Setup for 24 students

- 1 - Hot Air Balloon Launcher (D713263)
- 1 - Propane (D752100)
- 1 - Indoor Balloon Tester (D713263)
- 1 - Hot Air Balloon Explore-a-Pak\* (D990001)
- 24 - Hot Air Ballooning, Student's Guide (D990003)
- 4 - Balloon Gore Pattern (D990002)
- 1 - Kestral Wind Meter (D754910) pg. 77

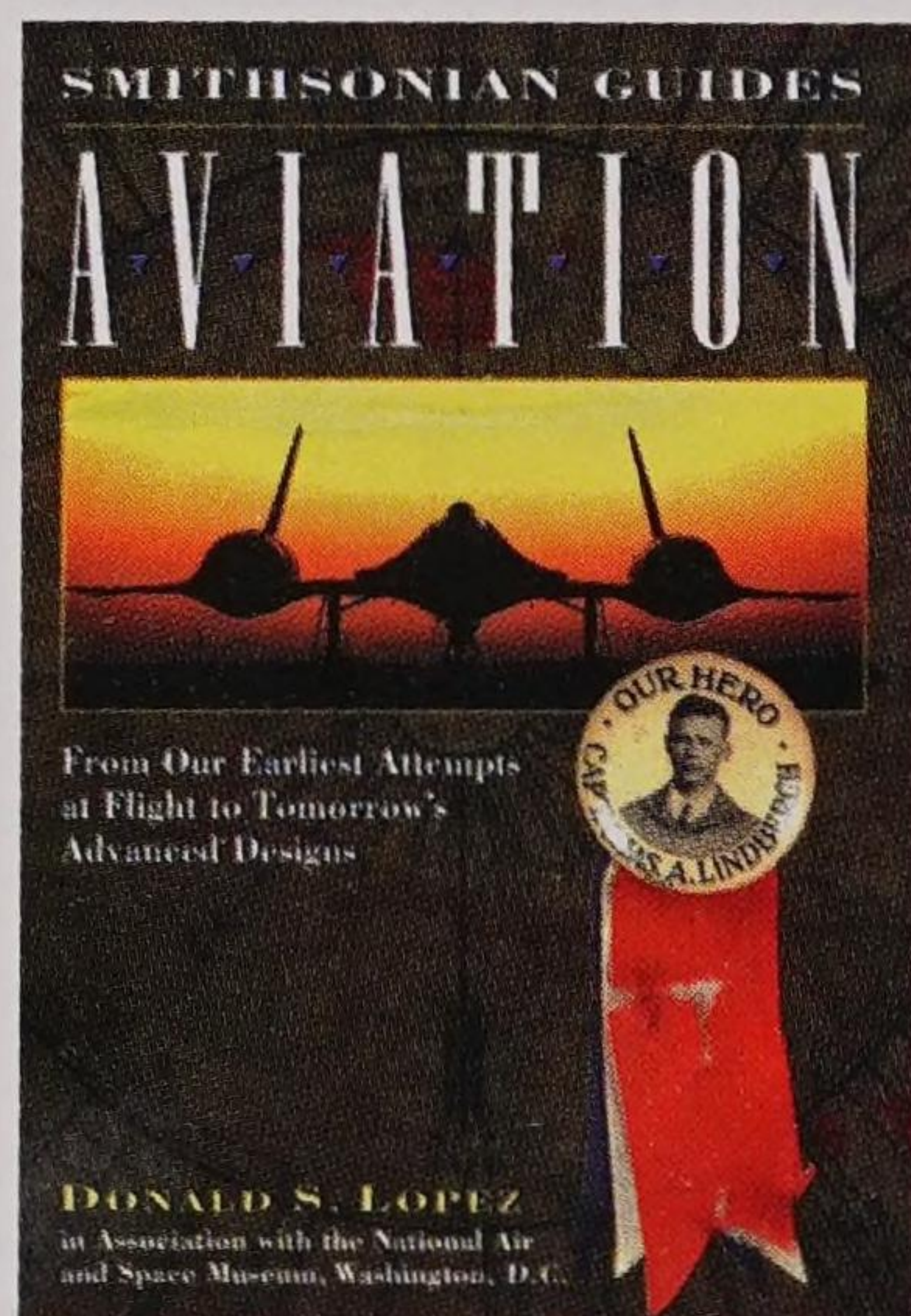
**Total: \$765.75**  
plus shipping

\* Consumables

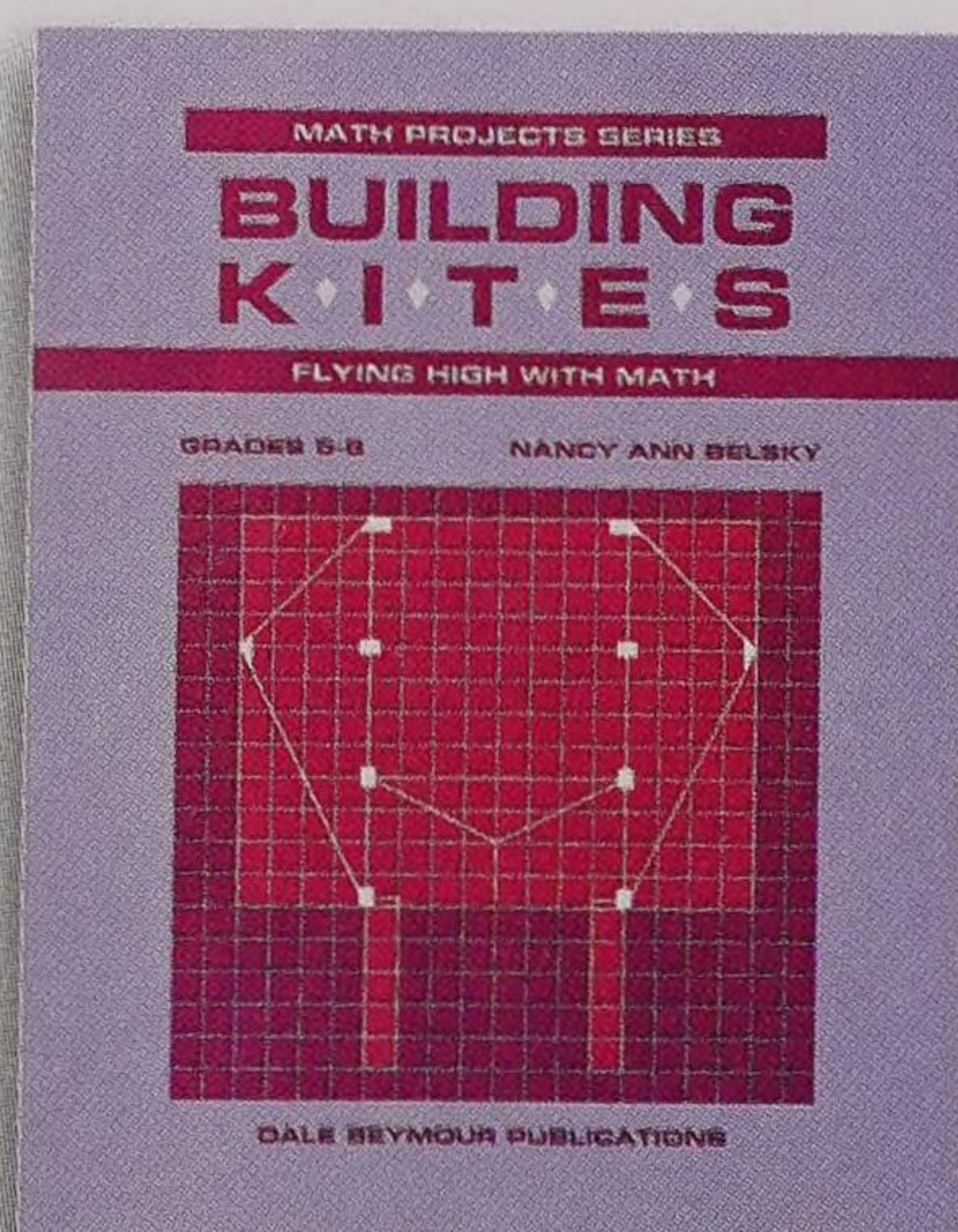


**EXCLUSIVE****KITE EXPLORE-A-PAK****PITSCO**  
INNOVATIVE EDUCATION

Introduce your entire class to the educational fun of making fantastic kites! The *Kite Explore-A-Pak* includes everything a class of 25 students needs to complete this high-flying activity – colorful tissue, string, glue sticks, teacher's guide with student worksheets that can be duplicated to accommodate your class size, and more!

**D990007—\$60****SMITHSONIAN GUIDES: AVIATION**

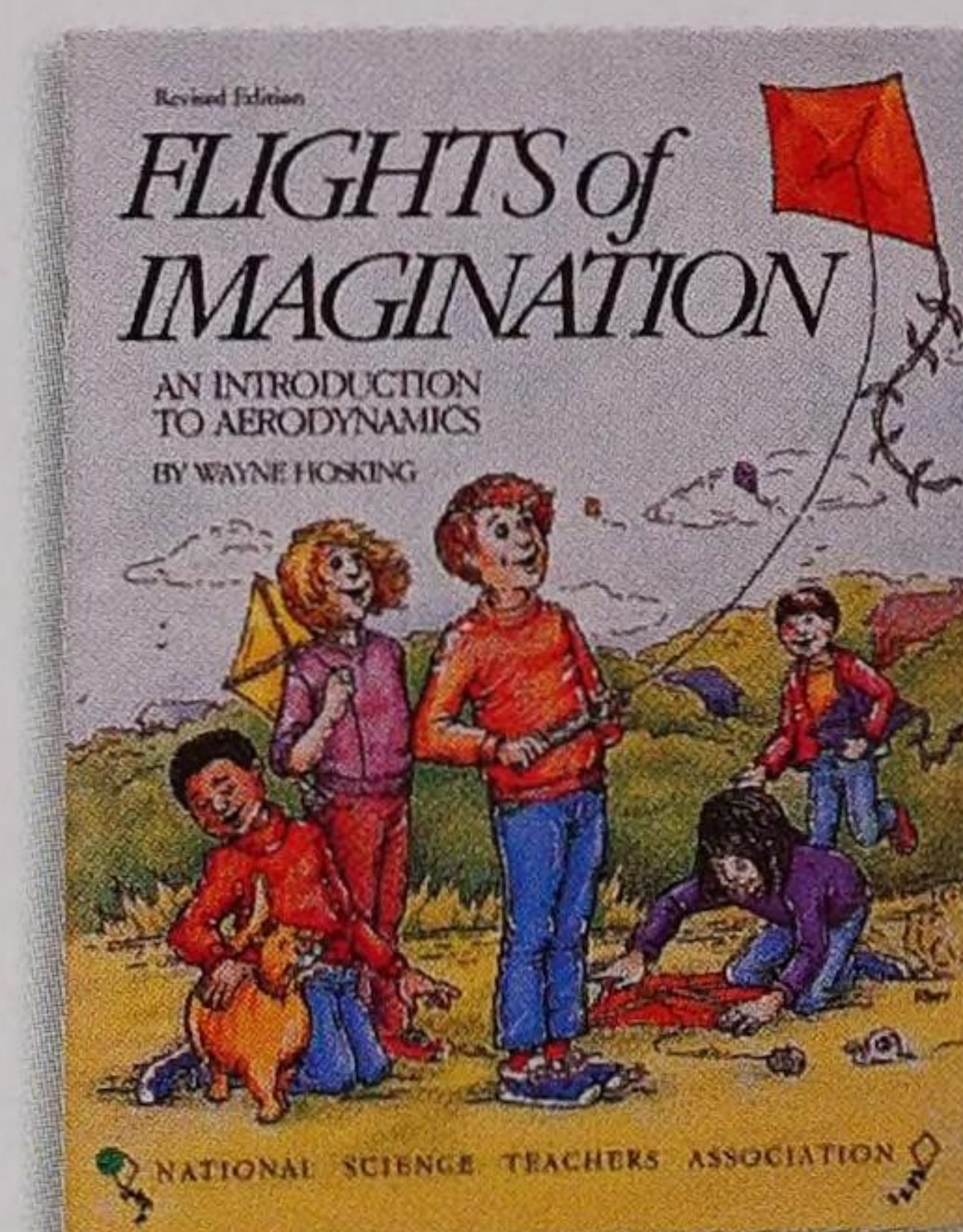
If you could have only one book on aviation, then this is it! This comprehensive, easy-to-use guide gives a great overview of aviation; it's chock-full of color photographs and illustrations and well-written text. Includes a full-color foldout time line of aviation milestones decade by decade. The 40-page, quick-access, A-to-Z glossary includes capsule biographies, special terms, and key concepts. Paperback, 256 pages.

*Level: Middle School-High School***D753185—\$18****MATH PROJECTS SERIES: BUILDING KITES**

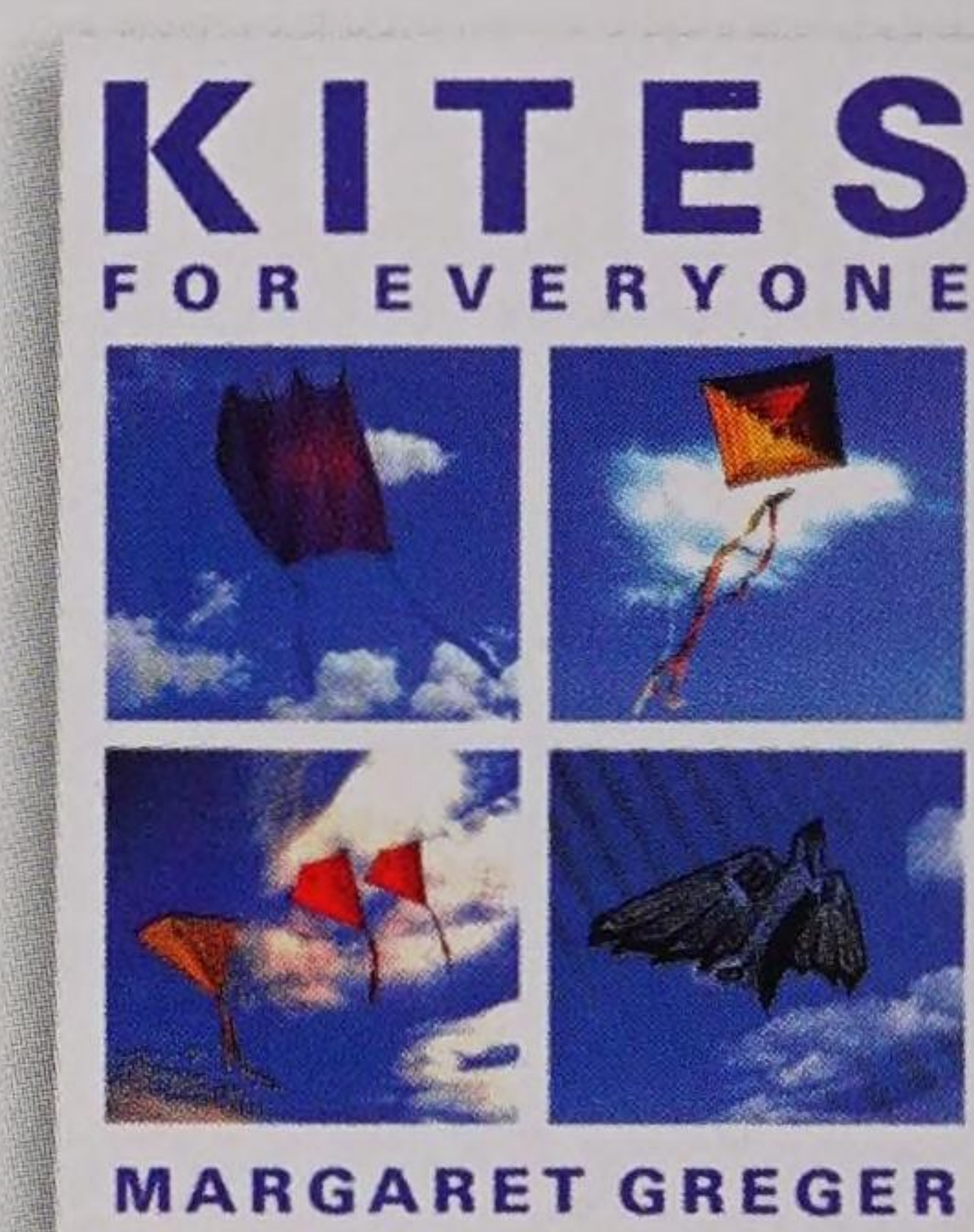
This great activity book integrates mathematics into kite building. These fun, challenging hands-on kite projects provide opportunity for students to:

- Follow and solve problems.
- Express their creativity while planning and building usable models.
- Apply math as they enlarge patterns, determine measurements, and look for relationships.

Paperback, 65 pages.

*Level: Intermediate-Middle School***D753173—\$11.95****FLIGHTS OF IMAGINATION**

With the use of kites, gliders, and airfoil projects, this book is an introduction to aerodynamics. Students investigate the fundamentals of flight through 18 hands-on projects. Each activity presents a clearly described principle of aerodynamics and then puts it into action with readily available materials. Paperback, 55 pages.

*Level: Intermediate-Middle-High School***D754102—\$19.95****KITES FOR EVERYONE**

Great illustrations and activities make this book one every kite lover will have to have! An expert on kites in the classroom and on fabric kite construction, Margaret Greger has combined the information from her three previous books on kites into this one manuscript. Paperback, 136 pages.

*Level: Intermediate-Middle School***D753187—\$13****DELTA DART**

Use this model for grades 4 and up. Pylon-mounted paper-covered wings give stable flight. Indoor or outdoor use. Rubber band-powered. Wingspan of 11-1/2".

**D750187 (35 planes)—\$49.95****D755522 (8 planes)—\$17.95**





## WHITEWINGS COMPETITION CONTEST KIT: WHITEWINGS 5000

With this kit, your after-school club, youth group, or other group of 16 or more could win \$2,500! Get this kit of 30 pre-cut balsa and paper airplanes and enter the Whitewings Paper Airplanes Contest. Kids can discover the science of flight and use their knowledge to make their gliders stay up longer. Kit includes 30 airplanes, 30 student instruction manuals, and two instructor's manuals. For contest information, call (425) 885-4599 or check out the Web site: [www.whitewings.com](http://www.whitewings.com).

**D755564—\$44**



## WHITEWINGS PIONEERS OF FLIGHT SERIES

This glider assembly kit has 15 graceful and high-flying models constructed from durable fiber. The kit features seven racer-style gliders and eight flying replicas of the most interesting aircraft in history, including the *Spirit of St. Louis*, *P51D Mustang*, *Clean S.S.T.*, *McDonnell Douglas F-15 Eagle*, and more. Flight manual and catapult launcher included.

**D753168—\$18**

## STAR GLIDER KIT

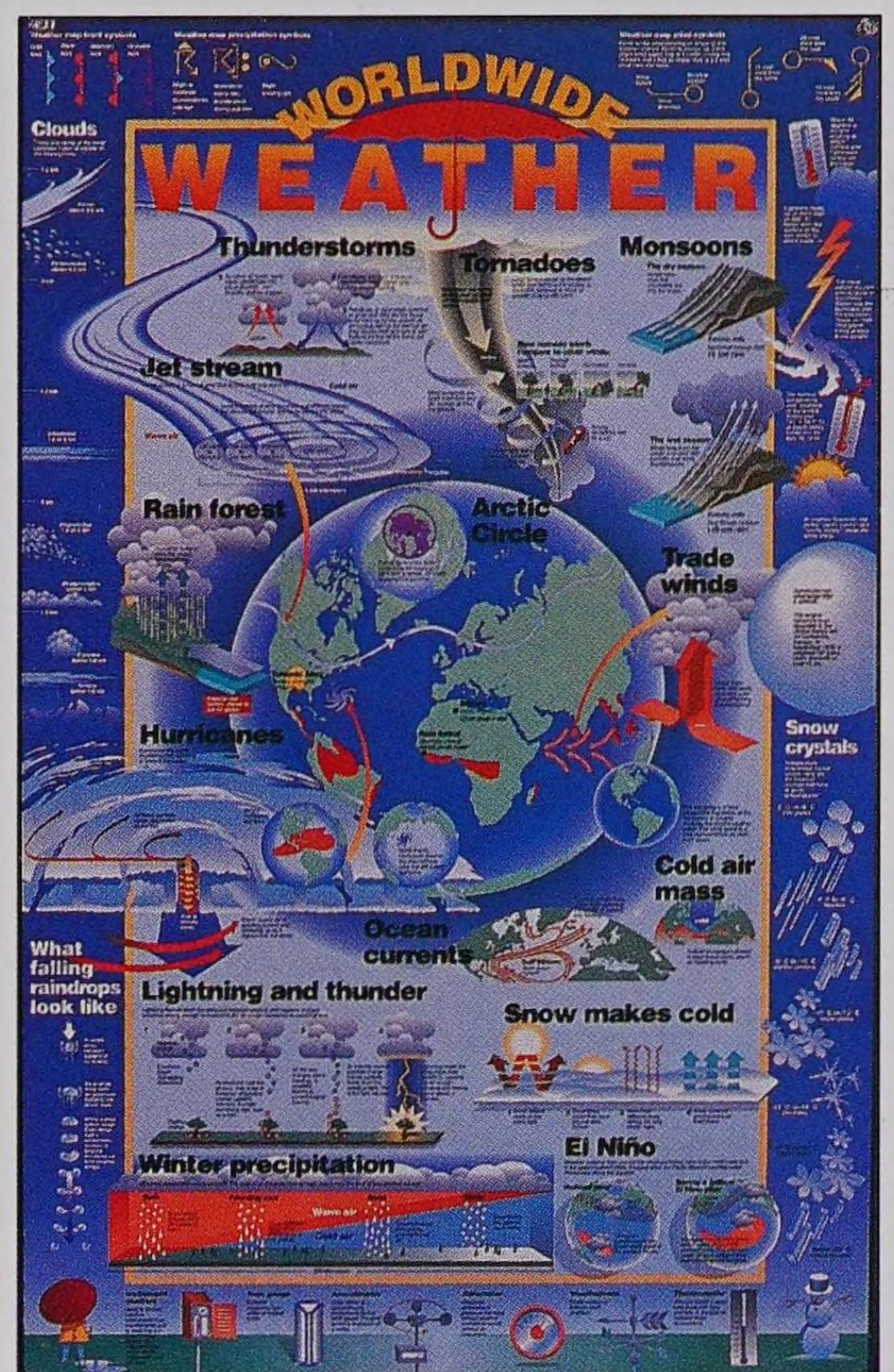
This simple balsa glider is easy to build and flies great! Balsa material is die cut, so you just carefully punch it out and glue the pieces together. Glider wingspan is 8" and length is 6". Package includes 35 double kits and instructions.

**D754496—\$46.95**

**D755520 (8 double kits)—\$19.95**



- AquaPort . . . . . 74-75
- Straw Rocket
- Launcher . . . . . 78-79
- Hot-Air Balloon
- Launcher . . . . . 80-81
- Kite Explore-A-Pak . . 82

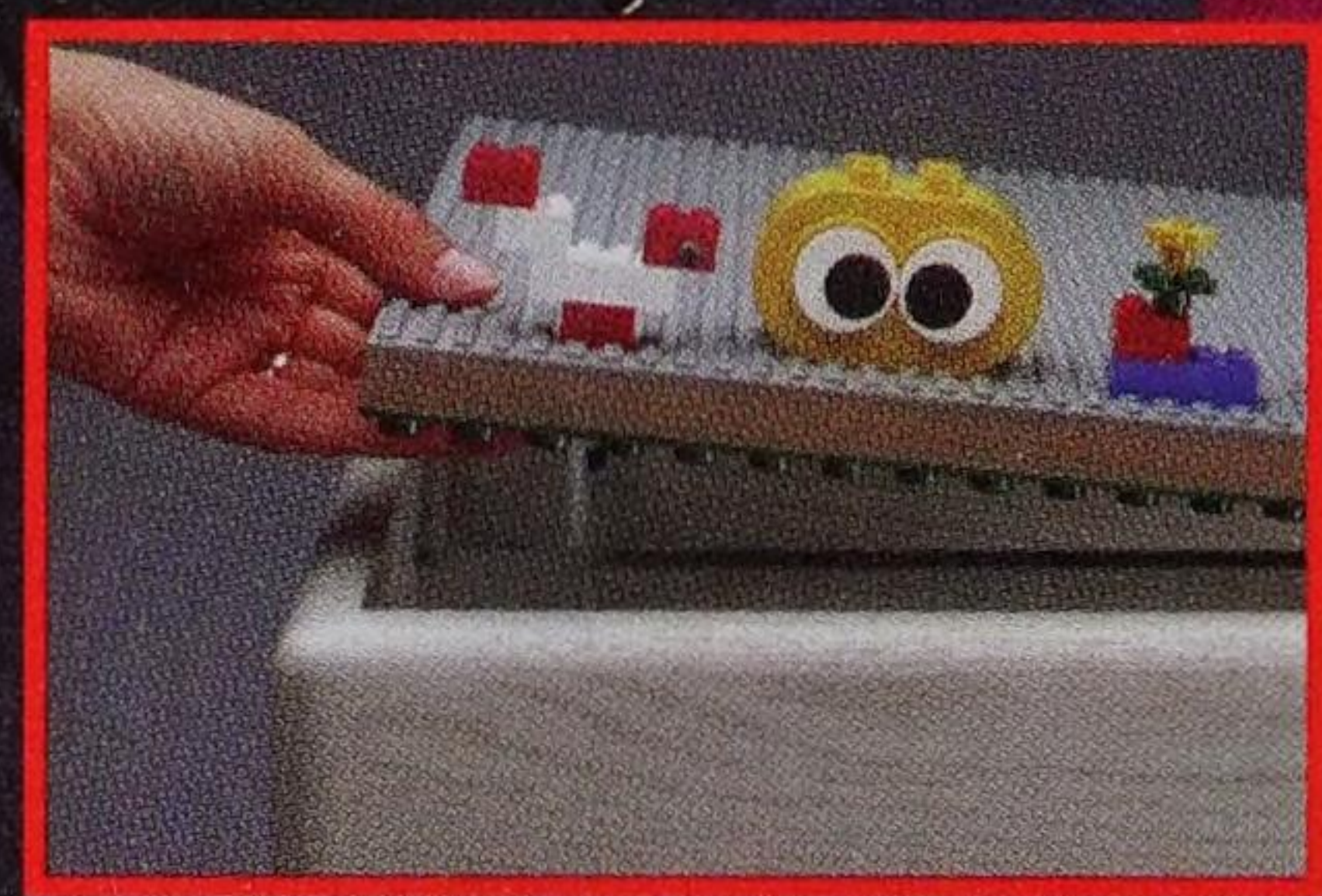


## WORLDWIDE WEATHER CHART

An informative and colorful laminated weather chart for all ages! Approved by the National Science Teachers Association, this display covers nearly everything regarding the weather: map symbols, storms, clouds, precipitation, El Niño, raindrops, rain forests, and more! This leave-up-all-year poster will be a continual resource for the classroom. On the back is a class experiment that encourages students to weigh a cloud. Size: 24" x 36".

**D756078—\$19.95**





## LEGO DACTA FLIP-TOP PLAYTABLE

Let your students unleash their creativity! The *Flip-Top Playtable* allows them to build with regular LEGO bricks or DUPLO bricks. No tools are necessary to flip the tabletop. Features durable hardwood construction and convenient table height for standing, kneeling, or sitting. Table measures 27" x 27" x 20" high. Storage bin sold separately.

### LARGE RED FLIP-TOP TABLE

D202920—\$298.50

### LARGE GREEN FLIP-TOP TABLE

D202921—\$298.50

### PLAYTABLE STORAGE BIN

(17" x 17" x 7-1/2")

D779920—\$14.50

### LARGE LAMINATED

TABLE COVER

D202011—\$80



**New**

## LEGO DUPLO BASIC CIRCUS #779063

All the fun and excitement of the circus is available in this set of 312 elements, which includes many basic bricks plus new decorated bricks featuring clowns and wild animals. It also includes six four-wheeled car chassis, four doors, 12 basic figures, and three small building plates. This set really stimulates children's creative and social skills!

Level: Early Learning

D779063—\$87.25



## LEGO DUPLO BASIC TOWN #779064

Endless possibilities for building a town, with 208 Basic LEGO DUPLO elements. The set includes three small building plates, nine basic figures, four doors, six car chassis, and many decorated elements, plus wings to build a plane or other flying machine. Provides fun and creative challenges for young children.

Level: Early Learning

D779064—\$66

**Order Online!**

[www.pitsco-legodacta-store.com](http://www.pitsco-legodacta-store.com)





## BONUS LEGO BASIC TOWN #779248

1,737 elements

Build a whole new community every day with houses and vehicles your students design. This bonus set includes lots of LEGO bricks plus wheels, figures, doors, windows, trees, and decorated bricks. Ages 3 and up.

**D779248—\$101.50**

## BONUS LEGO BASIC TOWN SPECIAL VALUE #779287

2,476 elements

Piles of elements to build a fantastic town environment with pretty houses, a gas station, a cafe, even a racetrack with lots of fancy cars or a town with everything a child could dream – an ice-cream booth at every corner, perhaps? Ages 5 and up.

**D779287—\$110**



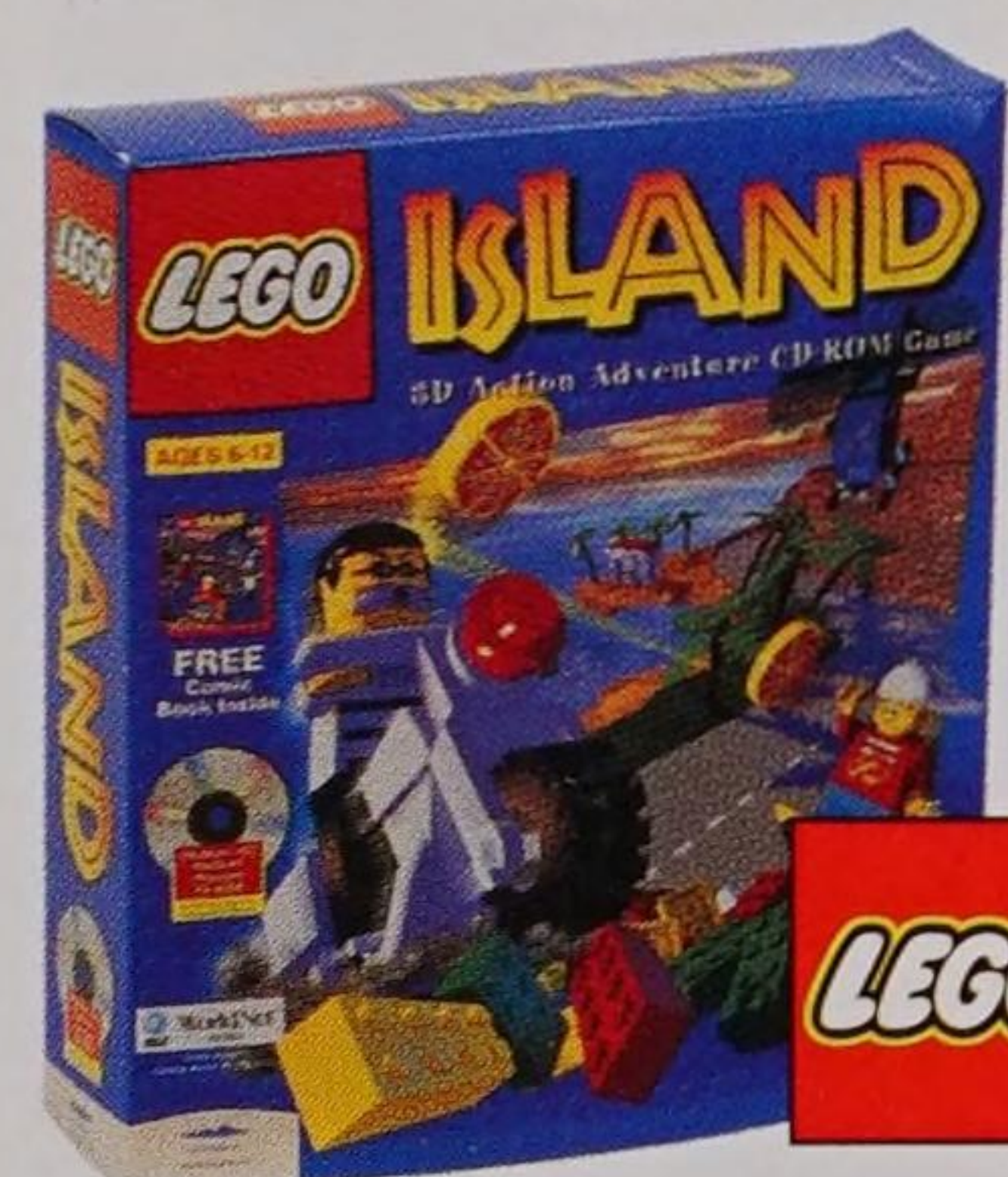
## LEGO DUPLO HOME

#779148

107 elements

Home for sale. Prime features: open floor plan with movable walls, completely furnished! Includes eight family members, a vacuum, a dog, a cat, a baby swing and stroller, a tricycle, and a doorbell that really rings.

**D779148—\$88**



CD  
ROM



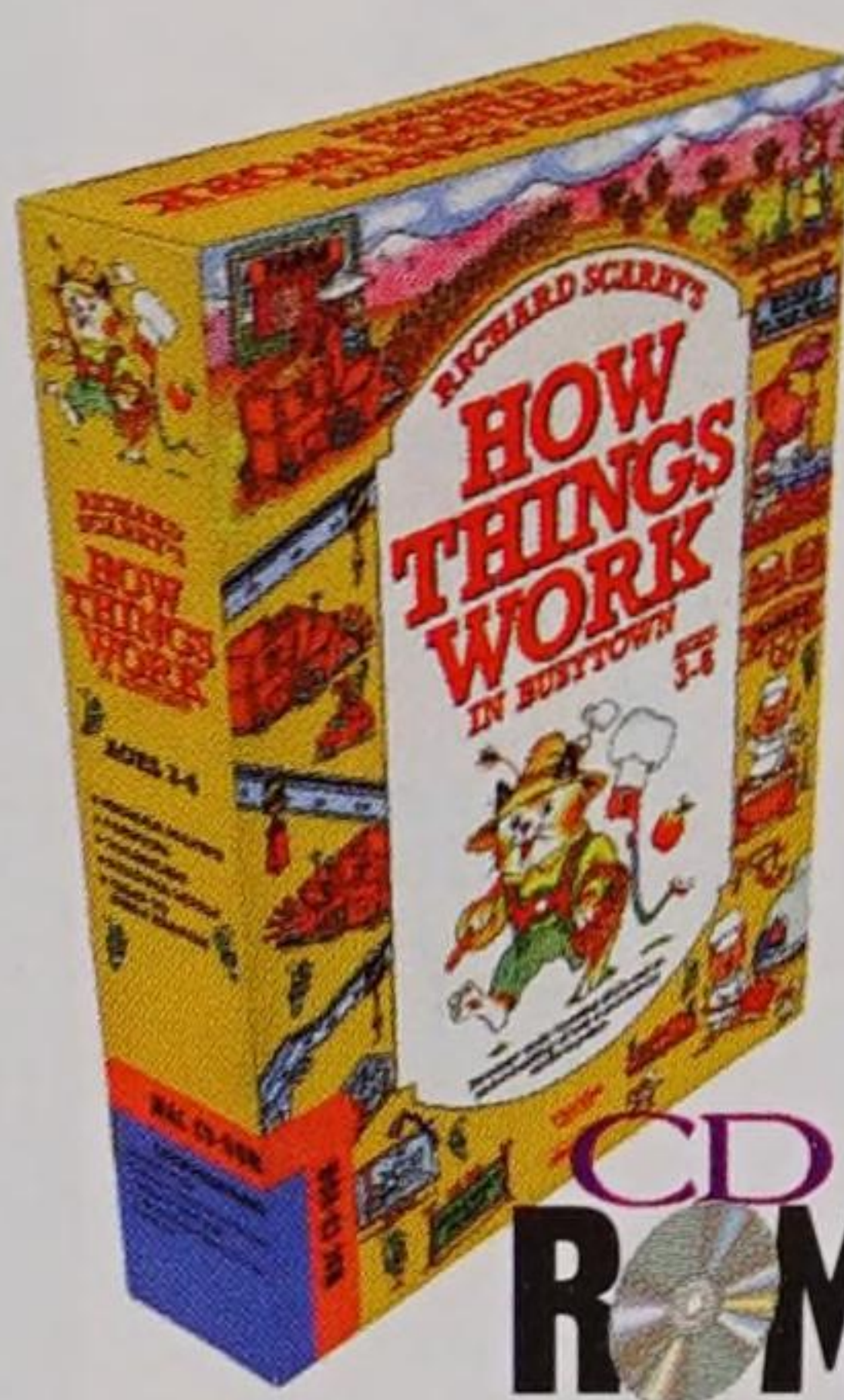
## LEGO ISLAND CD-ROM #755048

This 3-D problem-solving adventure game brings fun, imaginative worlds to CD-ROM! Your students can explore and customize the island as they assume the identities of LEGO characters. They'll also build their own custom vehicles – race car, water jet, dune buggy, and helicopter – and race them around the island.

The game involves accidentally releasing the Brickster from jail. Students can capture the Brickster and put him where he belongs before he destroys the island brick by LEGO brick!

Level: Early Learning

**D755048 Windows 95 CD-ROM—\$49**



CD  
ROM

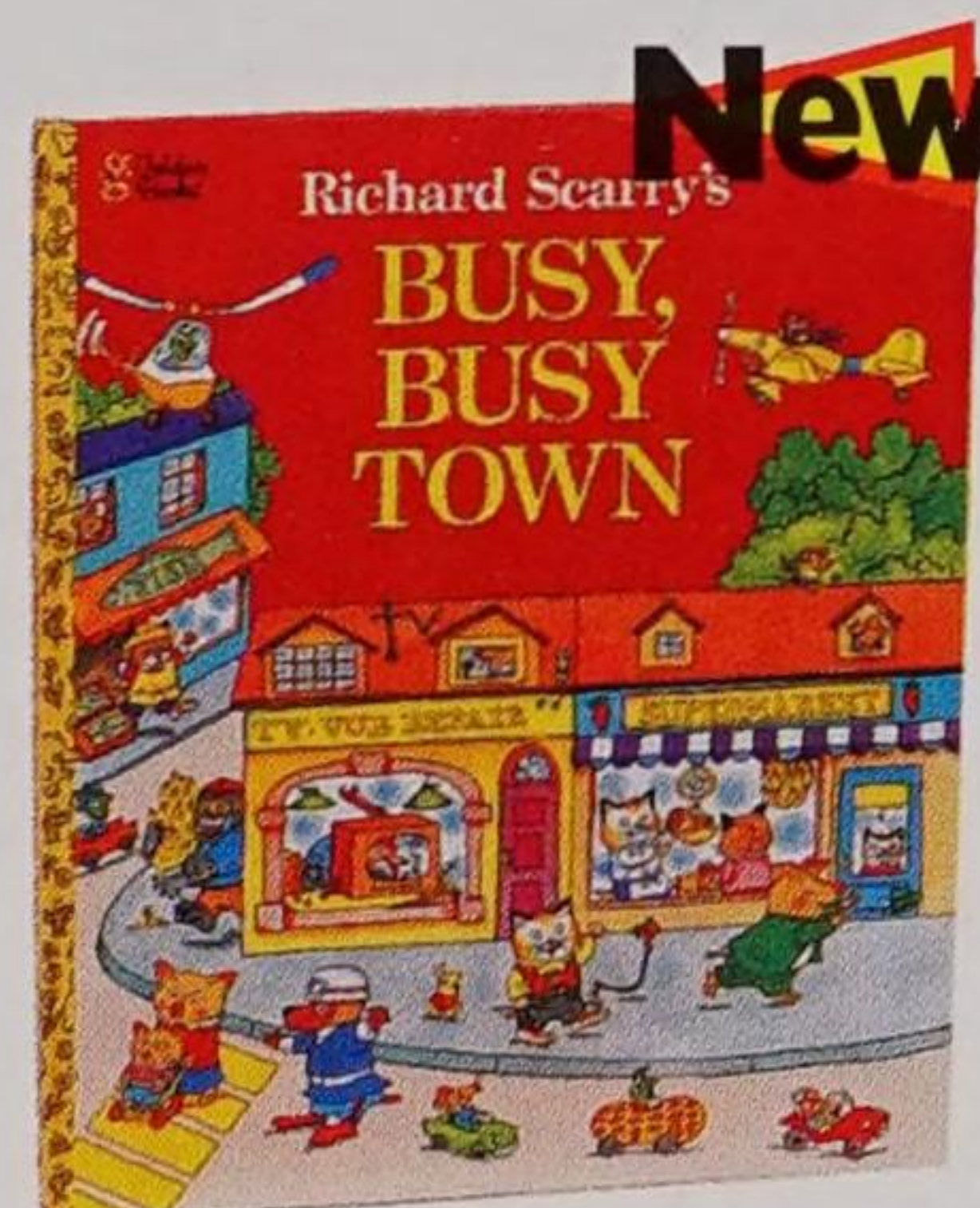
## HOW THINGS WORK IN BUSYTOWN

The popular storybook world of Richard Scarry comes to life in this interactive-learning CD-ROM! With Huckle Cat, Lowly Worm, and other characters, children learn the importance of working together in a community while gaining valuable early learning skills.

They'll participate in a wide range of activities such as building a tractor, harvesting wheat, grinding wheat into flour, and helping Able Baker make bread. Children learn: colors and counting, problem solving, word recognition and vocabulary, and community roles.

Level: Early Learning

**D755054 Mac/Win Hybrid CD-ROM—\$49.95**



New

## BUSY, BUSY TOWN

All young children love Richard Scarry's books, and *Busy, Busy Town* will be no exception! Scarry's familiar characters, including Huckle Cat and Lowly

Worm, learn about many aspects of their town, as they visit the school, library, medical center, airport, harbor, garbage dump, firehouse, and other places where people work and live. Hardback, 41 pages.

Level: Early Learning

**D990225—\$13.95**

## STANDARDS

These activities meet or exceed national standards in the areas of math, science, and technology. For information about correlations to standards in your state, contact your regional sales representative or visit our Web site:

[www.pitsco-legodacta.com/html/standards.html](http://www.pitsco-legodacta.com/html/standards.html)

## Ideal Classroom Setup for 24 students

- 1 - LEGO DACTA Flip-Top Playtable (D702920 or D702921)
- 1 - LEGO DUPLO Home (D779148)
- 1 - LEGO DUPLO Basic Town (D779064)
- 1 - LEGO DUPLO Basic Tubes (D779087) pg. 94
- 1 - LEGO DUPLO World People (D779171) pg. 104
- 2 - LEGO DUPLO Basic Medium Bulk (D779065) pg. 104

**Total: \$622**  
plus shipping



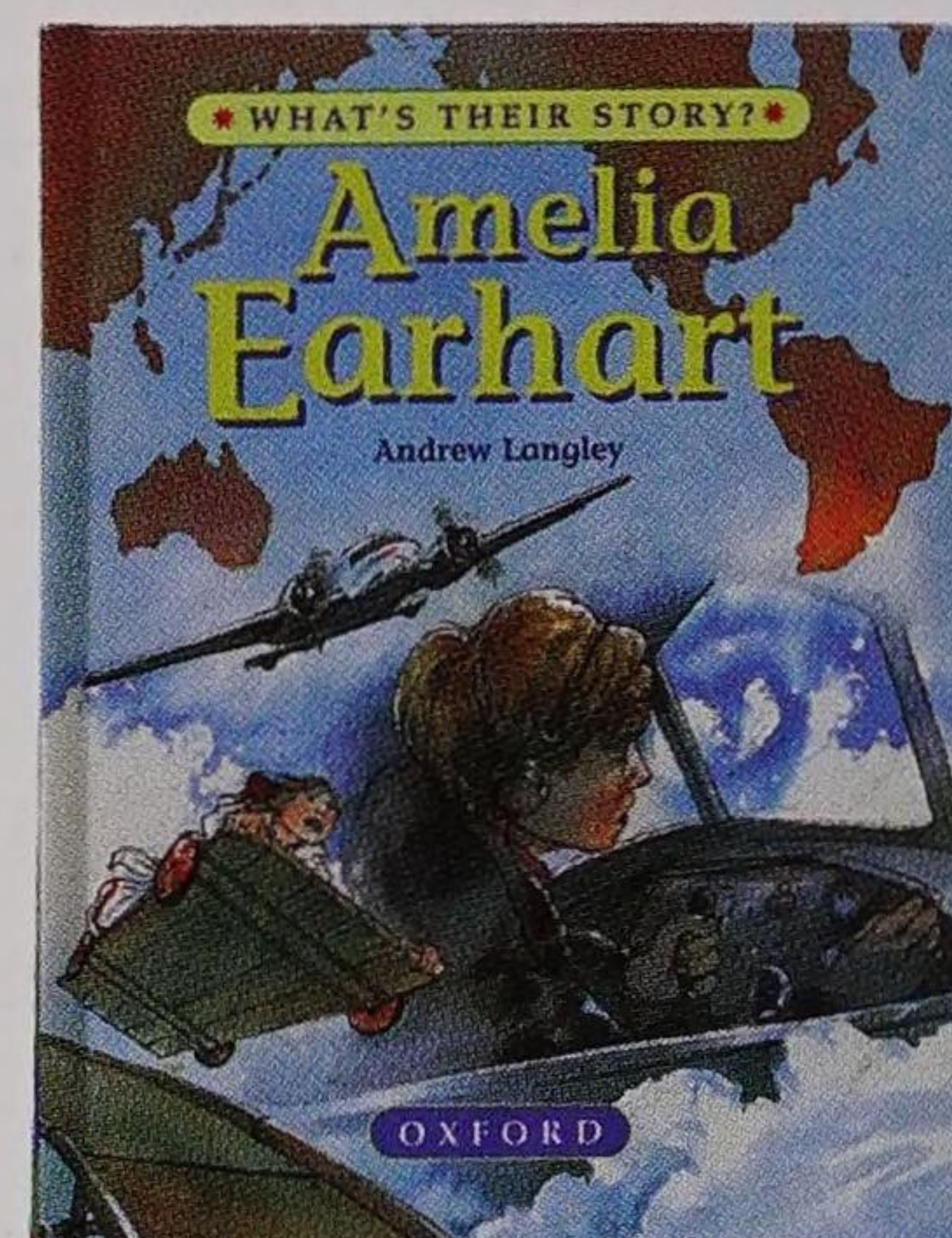
**LEGO 5+ BASIC AIRPORT #779288**

1,371 elements

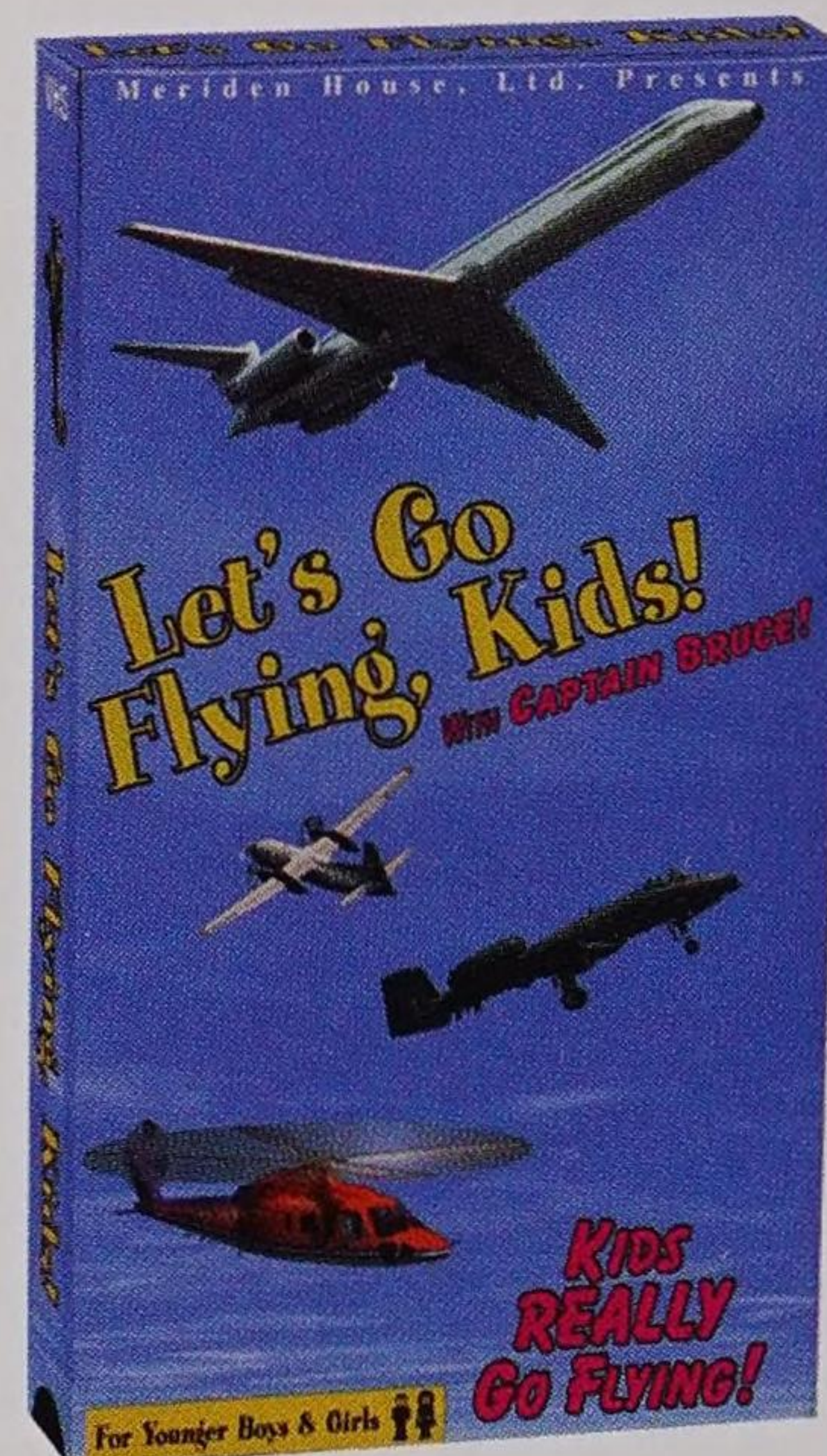
Destination: Anywhere! Airplanes and helicopters are taking off and landing all day long. This set includes figures, windows, wheels, and propellers and encourages children to reproduce events in daily life as well as build imaginatively. Ages 5 and up.

**D779288—\$70.75****SPACE INFLATABLES**

Create a space theme in your classroom by hanging these realistic inflatables. Dimensions given are sizes when filled with air.

**D756047 Space Shuttle (26")—\$5****D756048 Stellar Globe (16")—\$4.95****WHAT'S THEIR STORY?****AMELIA EARHART**

A well-told, beautifully illustrated biography for young readers. Amelia Earhart flew into history through her courage and skill as a pilot. For women she was a shining example of freedom, opportunity, and success. Her story is truly dramatic, from her triumph as the first woman to fly the Atlantic, to her mysterious and tragic disappearance over the Pacific. Hardback, 30 pages.

*Level: Intermediate-Middle School***D756079—\$15.55****LET'S GO  
FLYING, KIDS!**

The sky is the limit with this fun and educational video. Students will climb aboard with a real airplane pilot and learn all about planes and the people who make them. Host Captain Bruce, an experienced airplane pilot, will show students how a plane flies. Plus, they will see the men and women who work at busy airports and visit a real air show. Approx. Time: 30 minutes

*Level: Early Learning***D756073—\$20**

**Call Toll Free!**  
**800-362-4308**



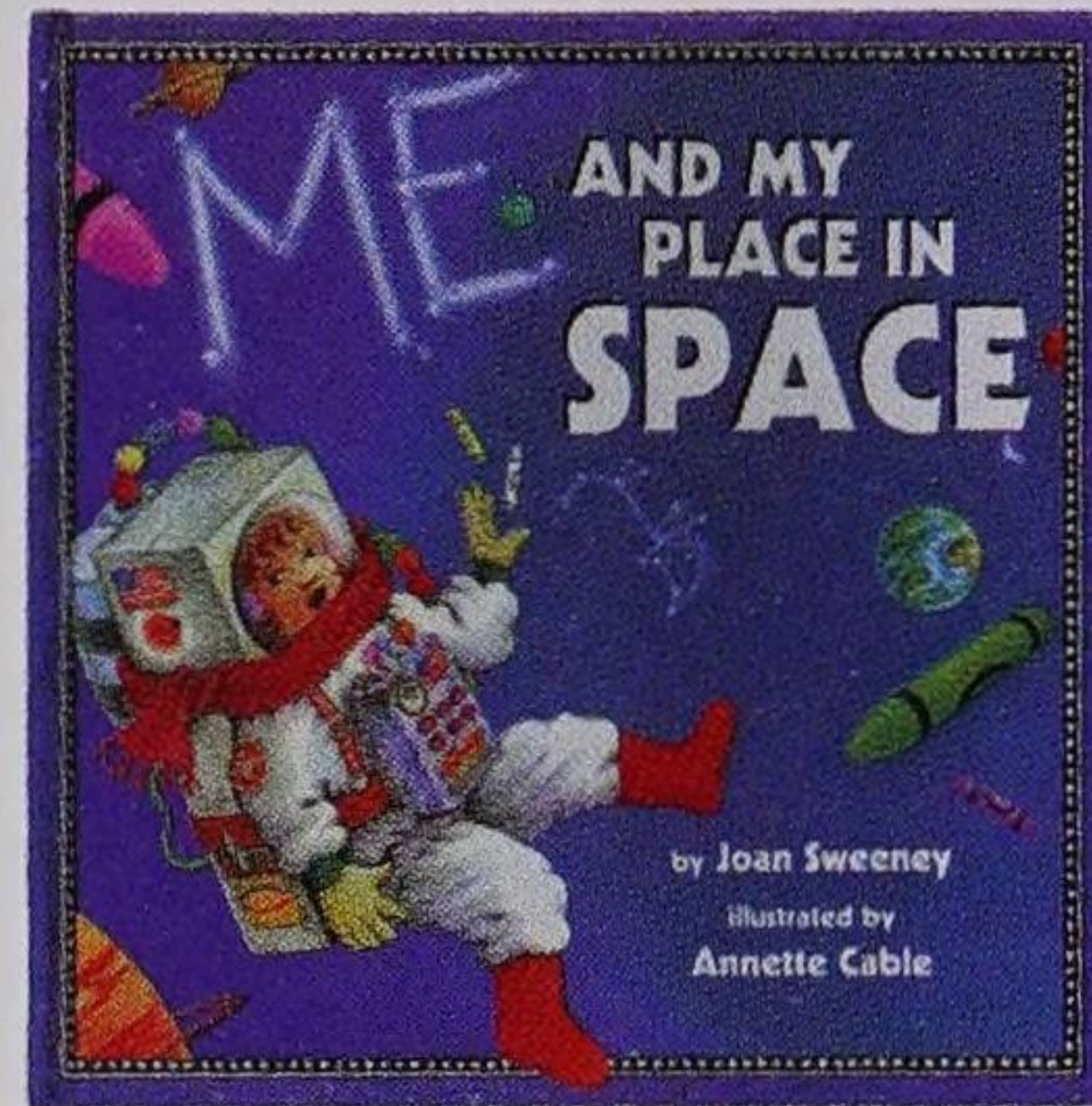


### LEGO 3+ BASIC AIRPORT #779249

1,161 elements

Build an airport with lots of free scope for the imagination, using LEGO bricks in different shapes and sizes including many special pieces - wheels, doors, windows, propellers, and decorated bricks. Ages 3 and up.

**D779249—\$88.25**



### ME AND MY PLACE IN SPACE

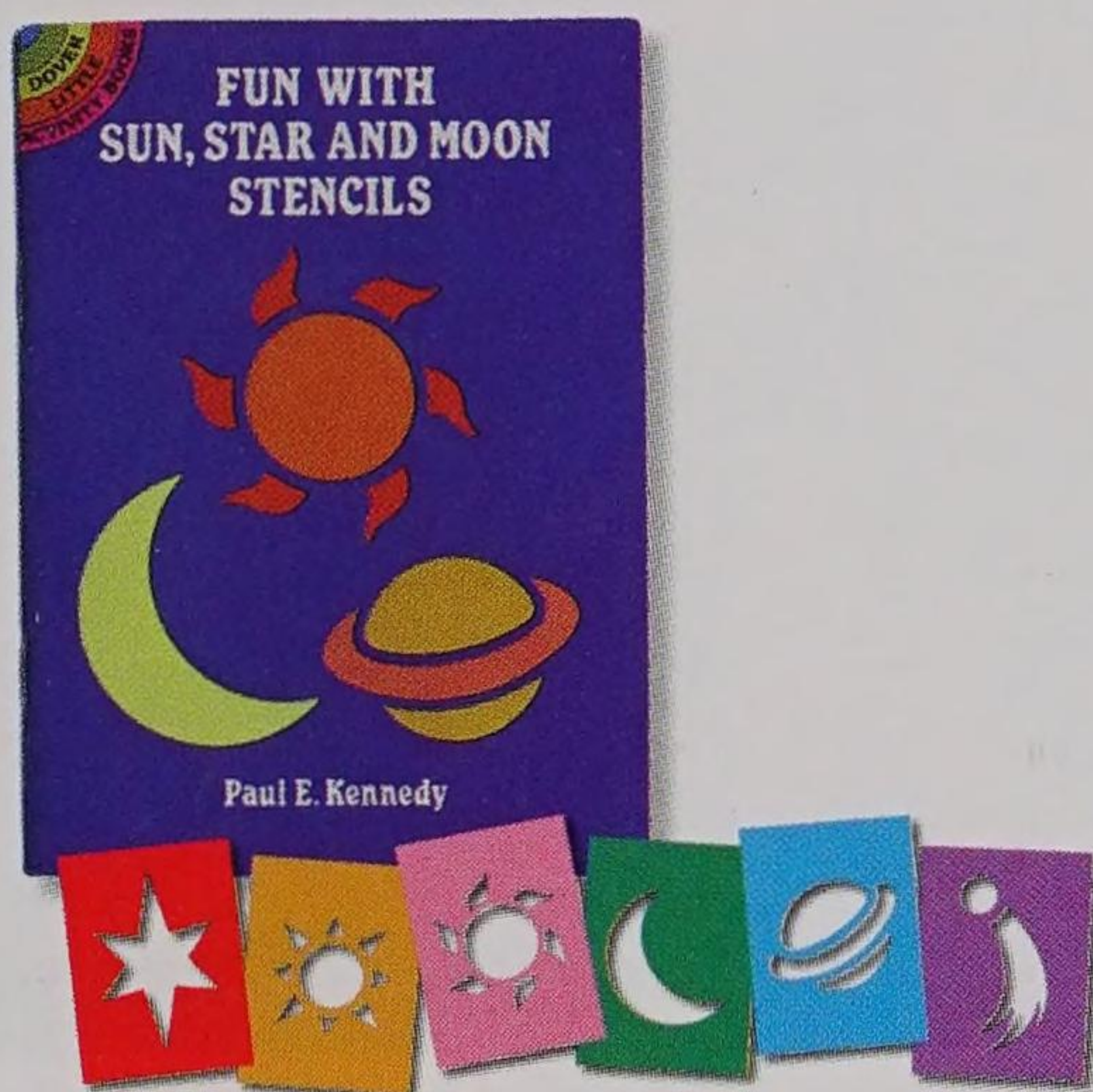
A perfect first book to introduce children to space. Colorful, detailed artwork delivers a message that children can understand. Among the terms illustrated and explained in simple sentences are galaxy, Milky Way, moon, planet, solar system, star, sun, and universe. Children will be fascinated by tidbits of information about each planet in our solar system.

Hardback, 26 pages.

Level: Early Learning

**D756083—\$13**

Playtable . . . . . 84-85  
Primary  
Simple Machines . . 88-89  
Playwall . . . . . 92-93  
Primary  
Towers & Bridges . . . 96



### FUN WITH SUN, STAR AND MOON STENCILS

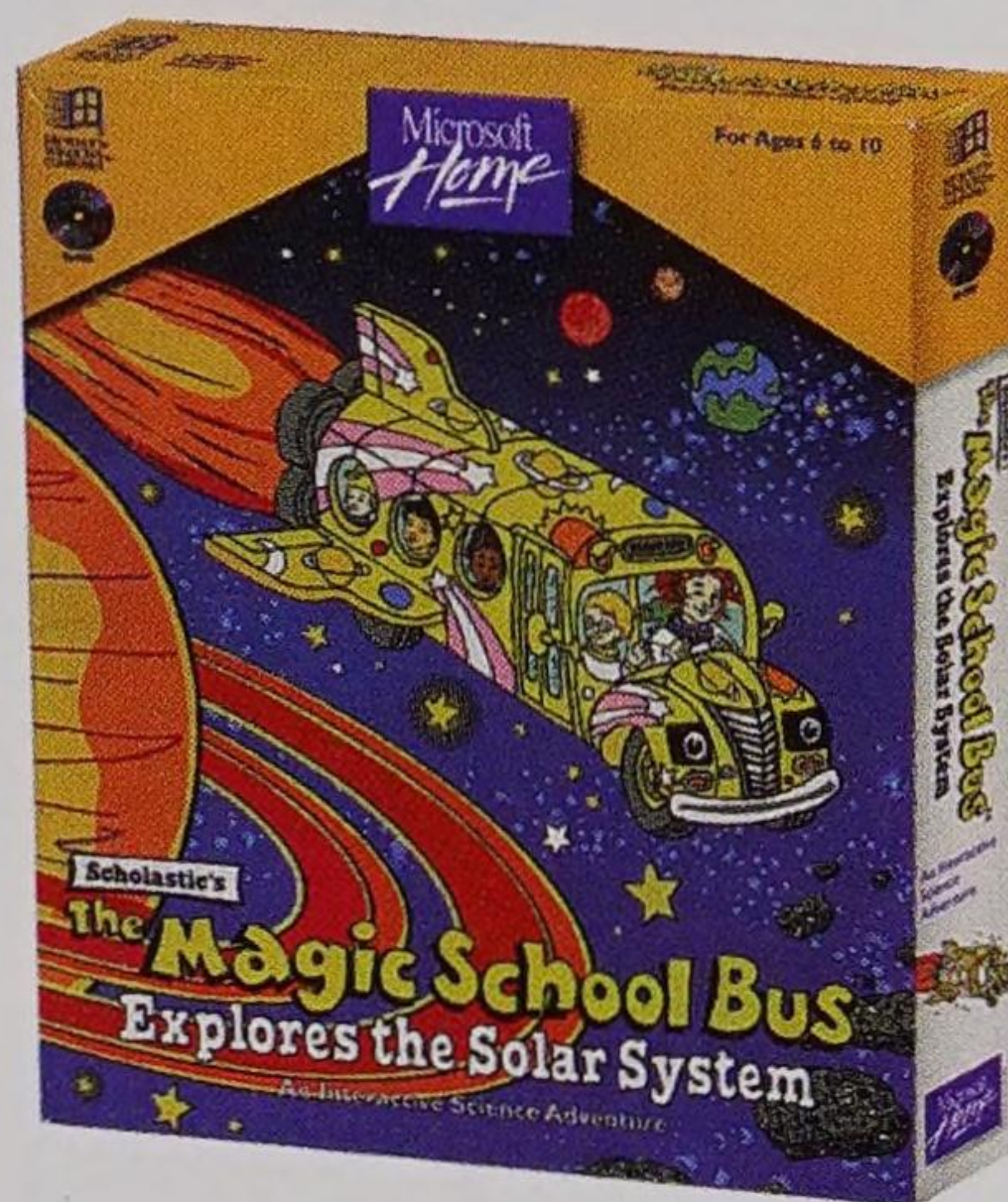
Youngsters can produce their own cosmic universes with this fascinating collection of precut stencils. Six designs: a shooting star, the planet Saturn, a crescent moon, two beaming suns, and a star can be used repeatedly to illustrate science projects or stories or to decorating classrooms.

**D756059—\$1**

### FUN WITH STARS STENCILS

This dazzling collection of celestial bodies lets youngsters create their own star-studded universes. Six different precut patterns depict a circle of stars, a six-pointed star, five-pointed stars, and other star-shaped motifs. Great for youngsters or adults for decorating purposes. This handy pocket-sized booklet is made of heavyweight, coated stock paper for durability.

**D756060—\$1**



### THE MAGIC SCHOOL BUS EXPLORES THE SOLAR SYSTEM



Students will have a blast interacting with this CD-ROM based on the popular TV series *The Magic School Bus*. They can journey to the moon or any one of the planets of the solar system and learn cool facts. Nine games and nine science experiments will engage their minds. Show-and-tell multimedia reports make learning fun and science easy to understand. Includes video and images from NASA and the Jet Propulsion Laboratory. Recommended for ages 6 to 10.

**D756098 Windows CD-ROM—\$29.95**



### GIANT LEGO DUPLO TOOLO AIRPORT #779121

97 elements

Calling all little engineers: construct airplanes, helicopters, cranes with hooks to collect small parts, or several other variations. Includes beams and wings, big wheels, hoses, cabs, hooks, figures, five screwdrivers, and one wrench.

**D779121—\$94.25**



### LEGO DUPLO TOOLO ACTIVITY PACK #771372

A unique new set of story and activity cards form the basis for classroom problem-solving exercises and enable teachers to either supervise or participate. The set includes two related sets of cards and a Teacher's Guide.

Level: Early Learning

**D771372—\$13**




**PRIMARY SIMPLE MACHINES SET  
#779654**

99 DUPLO elements

Young children build fun and simple models, such as a seesaw, rolling vehicle, hand-operated lift, and a merry-go-round. By playing with and manipulating the models, they experience pulleys, levers, gears, and wheels and axles.

- Designed for use by teams of 2 - 3 children
- Full-color activity cards with pictorial instructions for 14 models
- Plastic bin for easy cleanup and storage

**D779654—\$96**

**PRIMARY SIMPLE MACHINES  
TEACHER GUIDE #209664**

Designed to supplement the *Primary Simple Machines Set*, this pack includes a 36-page teacher's guide. The guide has excellent suggestions for introducing science concepts, hands-on exploration, and thematic activities.

**D209664—\$25**



**FreeFax™ Orders!**  
**888-534-6784**





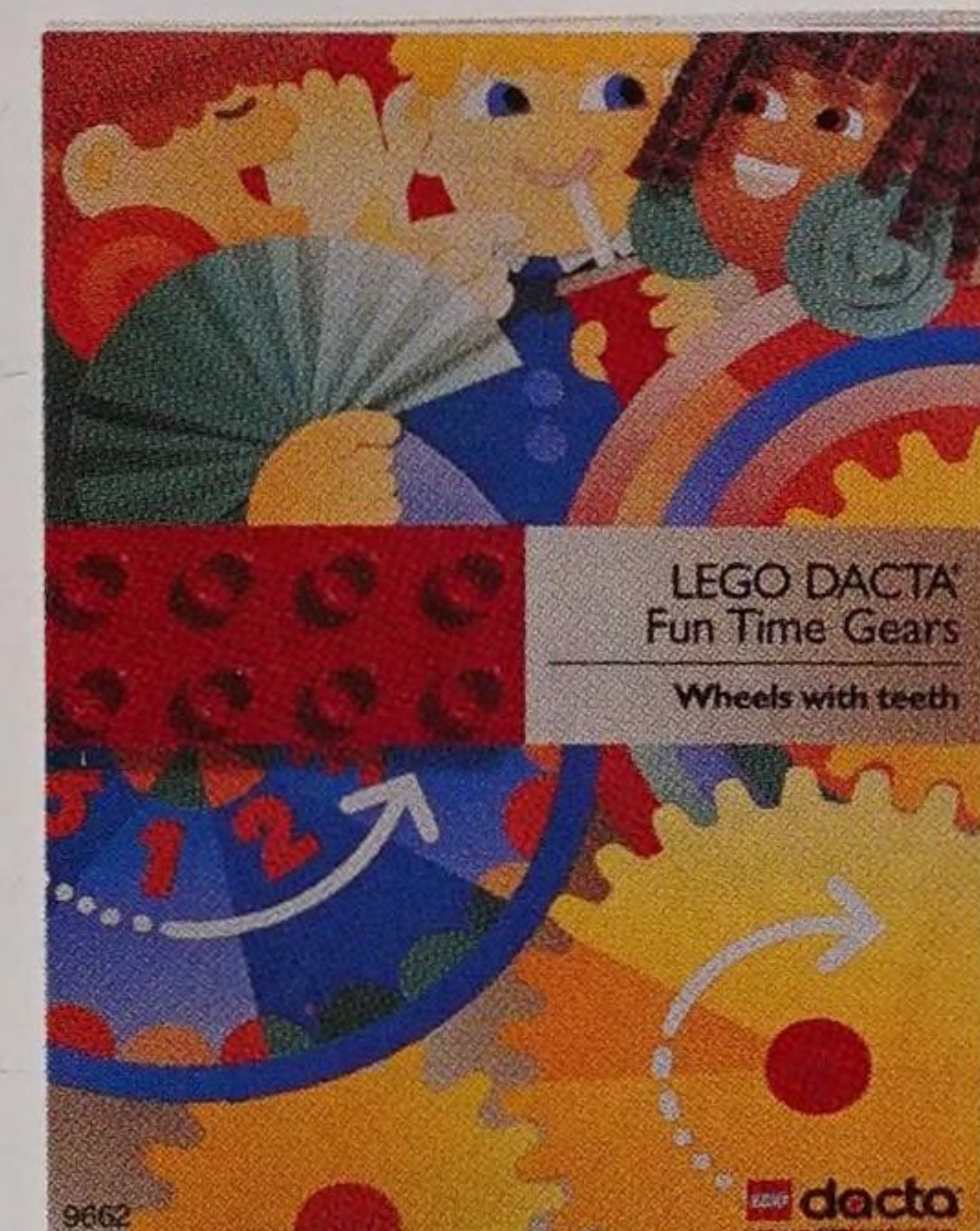
## FUN TIME GEARS SET #779652

32 DUPLO elements

Students explore gears by building three models: a hand-operated paper crimper, top and spinner, and a turntable pattern maker. Students can use the paper crimper and pattern maker to make colorful, creative art projects!

- Designed to be used by a pair of students
- 2 full-color activity cards with three projects
- Plastic storage bin

**D779652—\$43.50**



## FUN TIME GEARS TEACHER'S GUIDE #779662

An excellent supplement to the *Fun Time Gears Set*. Contains thematic ideas, discovering gears in everyday machines, and science concepts. Also includes support for the activities, art projects and more. 20 pages.

**D779662—\$6**

## FUN TIME GEARS II TEACHER'S GUIDE #209665

An excellent 20-page idea book designed to supplement the *Fun Time Gears II Set*. Contains background information about gears and how they are used in the real world.

**D209665—\$6**



## INVENTION BOOK

This book explains each step of the process of being an inventor.

*Invention* uniquely discusses the fundamentals of setting up a workshop, building models of the invention, creating a name for it, plus record keeping, planning, packaging, and marketing. This book leads students ages 10 and up directly into the world of creativity. Paperback, 207 pages.

Level: Intermediate-Middle School

**D753129—\$10.95**



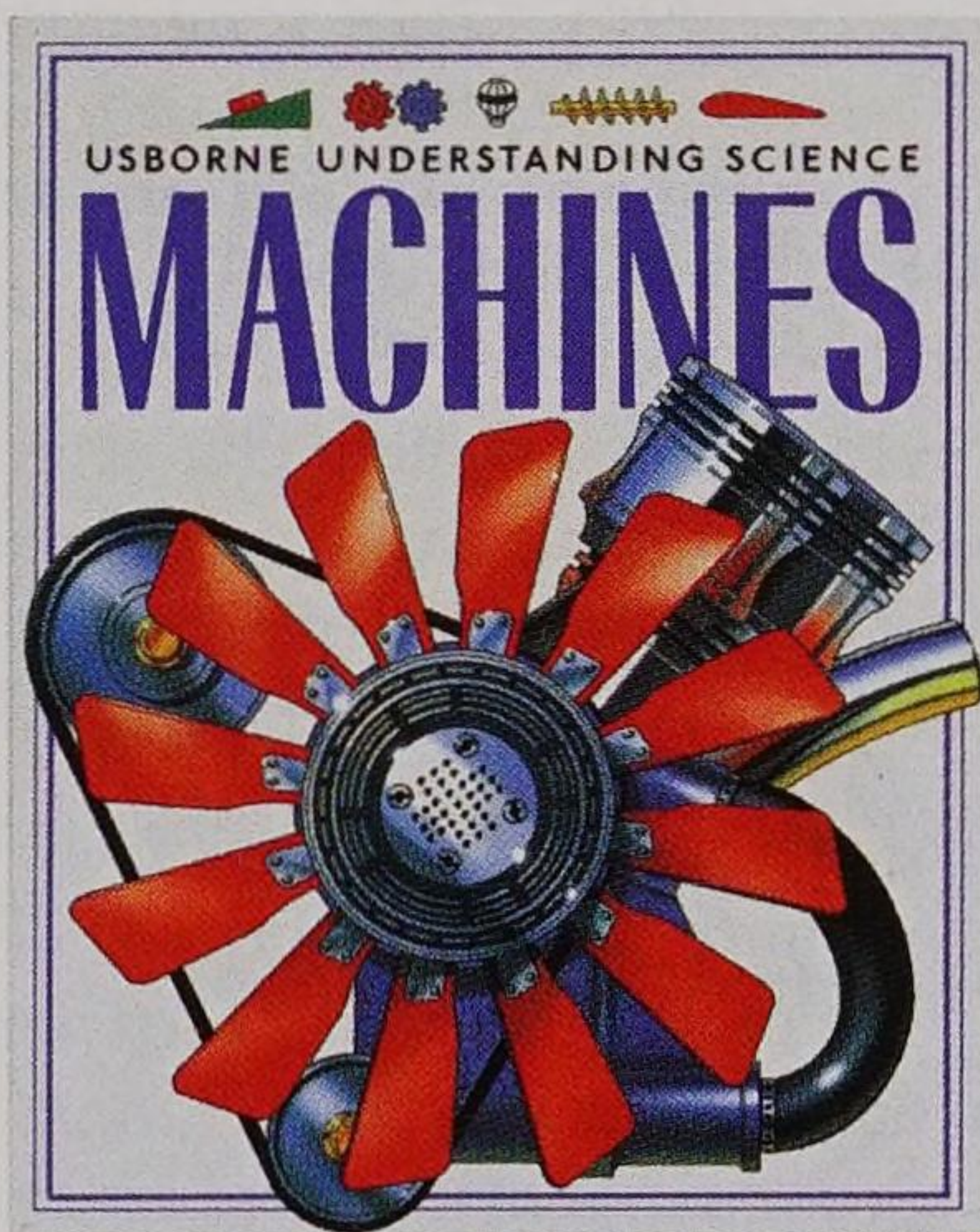
## FUN TIME GEARS II SET #779655

46 DUPLO elements

A follow-up to the *Fun Time Gears Set*, this new set allows students to progress even further! *Fun Time Gears II* introduces new key elements, giving a whole new range of models for student exploration. Models include the Drill, Cruncher, Gate, and Bike.

- A pair of students team up to discover gear concepts
- 3 full-color laminated building cards
- Plastic storage bin

**D779655—\$52.25**



## USBORNE: MACHINES

What do a pair of scissors and a satellite have in common? Find out in this fascinating book that explains everything from what machines do to how they help people every day. Includes a glossary of terms and colorful illustrations. Land machines, flying machines, time machines, the human machine. . .they're all included! Paperback, 32 pages.

Level: Intermediate-Middle School

**D756061—\$6.95**

Playtable . . . . . 84-85  
• Primary Simple Machines . . 88-89  
Playwall . . . . . 92-93  
Primary Towers & Bridges . . . 96

## STANDARDS

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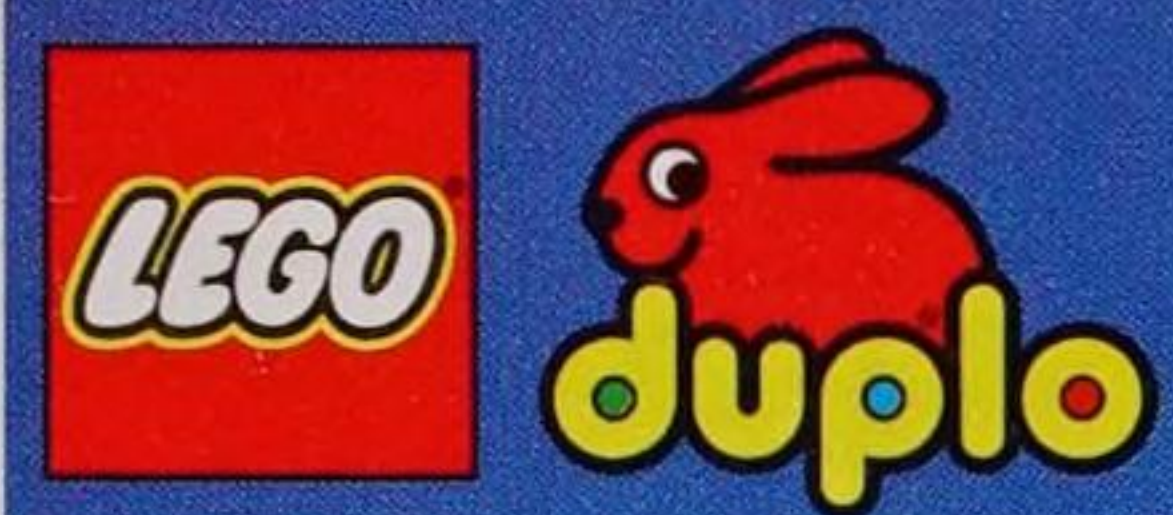
**Ideal Classroom Setup**  
for 24 students

6 - Primary Simple Machines Sets (D779654)  
1 - PSM Teacher's Guide (D209664)  
1 - Invention Book (D753129)

**Total: \$611.95**  
plus shipping



# 90 Section Supplements



## LEGO DUPLO BASIC BRICK RUNNER #779067

119 elements

One day a railway, the next day a traffic lane. The *Brick Runner* set has curved and straight rails and can be extended with existing LEGO DUPLO bricks to an endless lane! Includes a bascule bridge, wagons, and a ferry. For children 2 years and older.

**D779067—\$52.25**



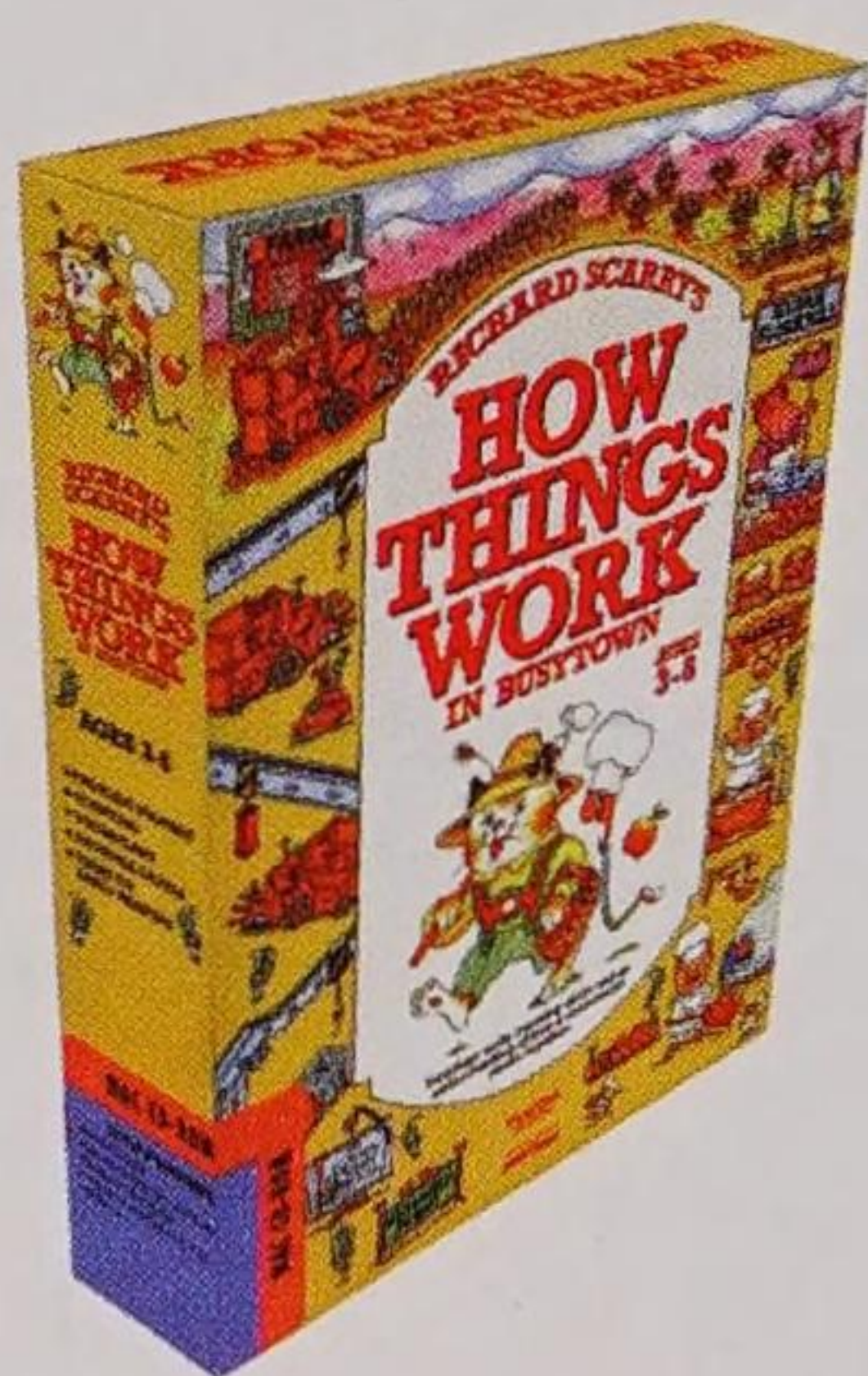
## HOW THINGS WORK IN BUSYTOWN

The popular storybook world of Richard Scarry comes to life in this interactive- learning CD-ROM! With Huckle Cat, Lowly Worm and other characters, children learn the importance of working together in a community while gaining valuable early learning skills.

They'll participate in a wide range of activities such as building a tractor, harvesting wheat, grinding it into flour and helping Able Baker make bread. Children learn: colors and counting, problem solving, word recognition and vocabulary, and community roles.

Level: Primary

**D755054 Mac/WIN Hybrid CD-ROM—\$49.95**

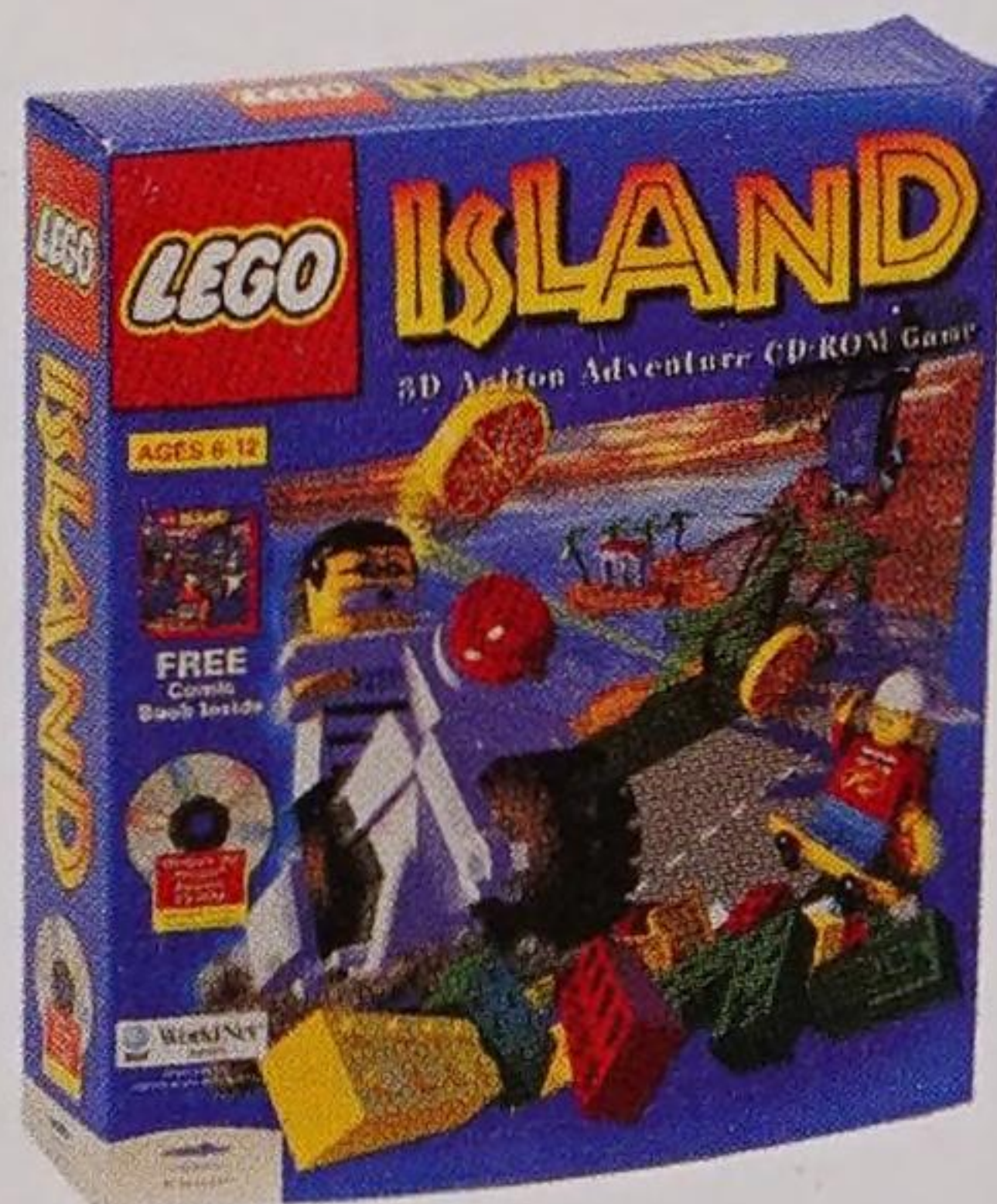


## LEGO ISLAND CD-ROM #755048

This 3-D problem-solving adventure game brings fun, imaginative worlds to CD-ROM! Your students can explore and customize the island as they assume the identities of LEGO characters. They'll also build their own custom vehicles – race car, water jet, dune buggy, and helicopter – and race them around the island.

The game involves accidentally releasing the Brickster from jail. Students can capture the Brickster and put him where he belongs before he destroys the island brick by LEGO brick!

**D755048 Windows 95 CD-ROM—\$49**



**Order Online!**

[www.pitsco-legodacta-store.com](http://www.pitsco-legodacta-store.com)





### LEGO BASIC HARBOR #779289

1,105 elements

Cast off! Build your own busy harbor with large ocean liners, small yachts, and motorboats. The set includes doors, windows, wheels, figures, propellers, and more.

**D779289—\$51.75**



### LEGO SYSTEM TRAFFIC SIGNS #779301

178 elements

Start road safety and traffic education! Here are 16 various recognizable signs together with fences.

**D779301—\$26.25**

## Section 91 Supplements

Playtable . . . . . 84-85  
Primary  
Simple Machines . . 88-89  
Playwall . . . . . 92-93  
Primary  
Towers & Bridges . . . 96



### I WANNA BE A SHIP CAPTAIN

All aboard as host Steve Pool takes students through the exciting world of shipping. Students will tour a Coast Guard cutter and see some shots of the Coast Guard in action. They will also learn about life at sea and the many special jobs onboard from shipboard personnel. The excitement will continue as students view of one of the world's largest seaports. Time: 30 minutes.

Level: Early Learning

**D756112—\$9.95**



### I WANNA BE A JET PILOT

Help students take off with this action-packed video. Host Steve Pool will take students to see how a real flight simulator works. Then they will hear from men and women who test-fly all the new Boeing jets; they will see what it takes to become a jet pilot. Students will also see what makes a plane fly and how a jet airplane works.

Time: 31 minutes.

Level: Early Learning

**D756111—\$9.95**



### I WANNA BE A TRUCK DRIVER

In this informative video host Steve Pool takes students on a ride they will never forget. Students will visit a trucking school and hear from the drivers and instructors. Then it's back on the road again to travel to the Kenworth plant where trucks are actually built. Finally, students will go on the road and look at trucks on the highway and at a truckstop. Time: 30 minutes.

Level: Early Learning

**D756113—\$9.95**

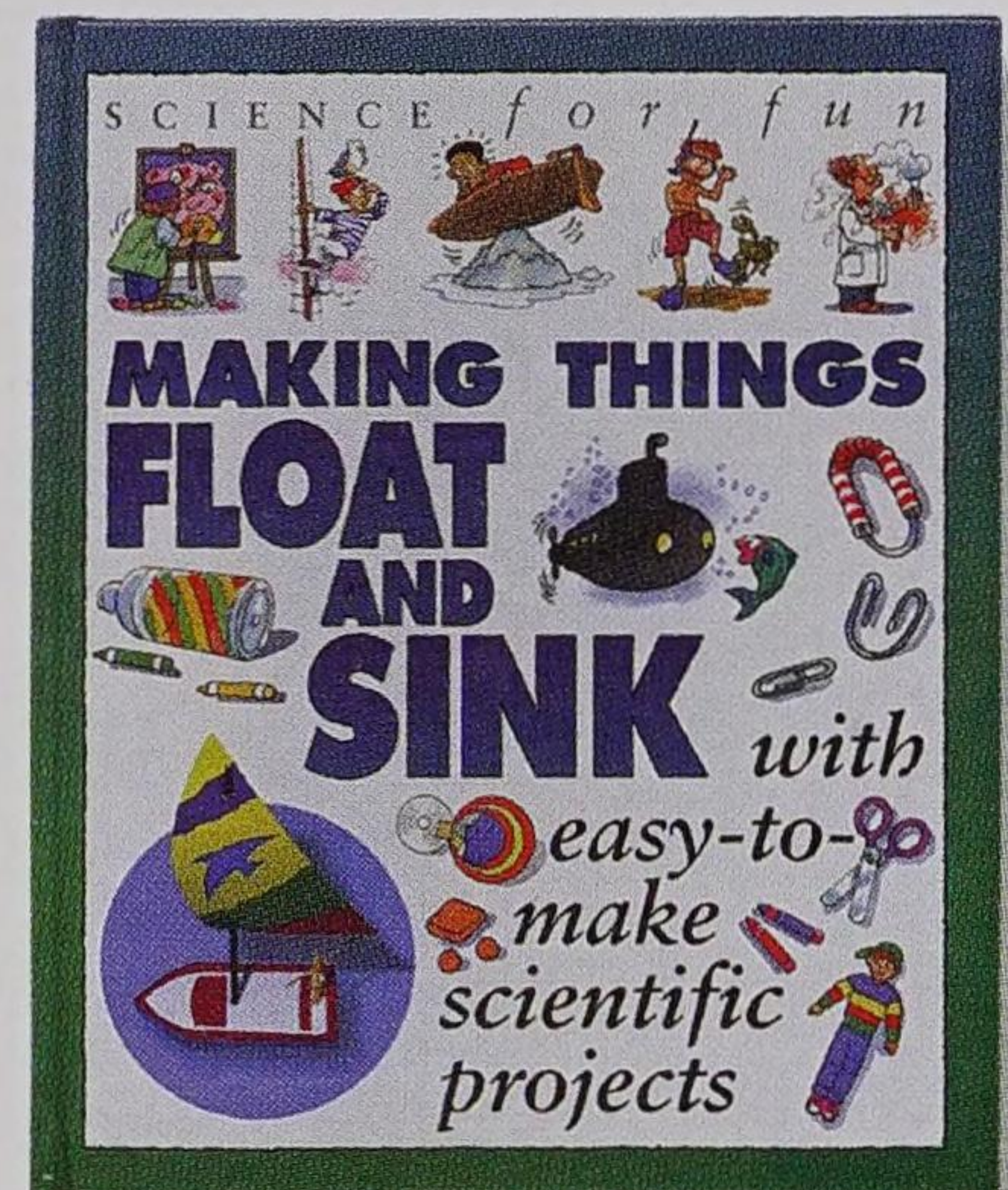


### I WANNA BE AN ASTRONAUT

3 . . . 2 . . . 1 . . . Blast off with host Steve Pool as he teaches students what it is like to be an astronaut. Students will hear real astronauts tell of their experiences in space. Steve also looks into the history of the space program by discussing space endeavors such as *Mercury*, *Apollo 13*, *Challenger*, and the future international space station. Time: 30 minutes.

Level: Early Learning

**D756114—\$9.95**



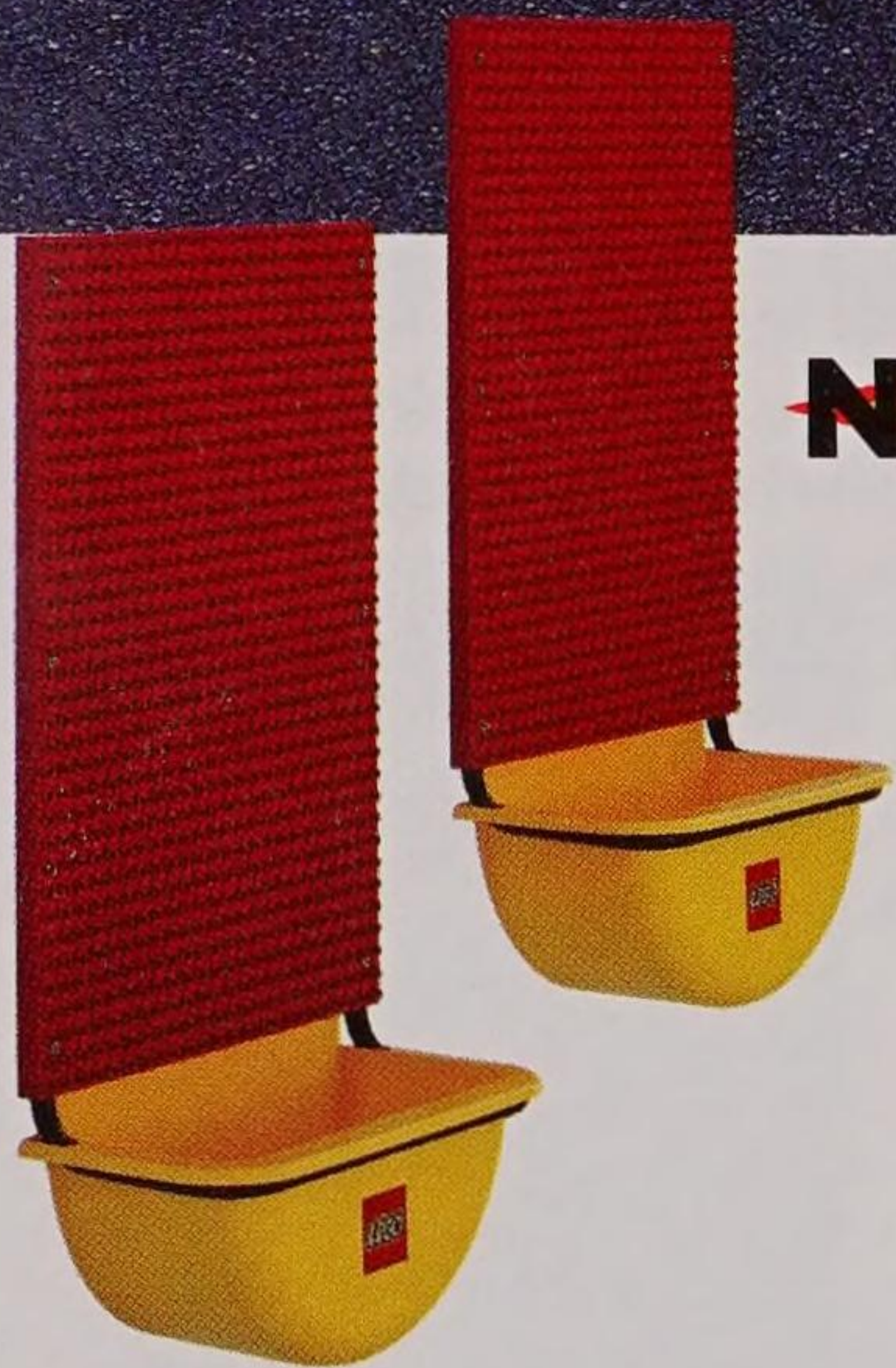
### MAKING THINGS FLOAT AND SINK

This Science for Fun book introduces young people to science by helping them to understand basic concepts. Simple text provides a step-by-step guide to a series of experiments, each of which is designed to help the reader truly understand the underlying scientific principle. Hardback, 31 pages.

Level: Intermediate

**D756075—\$20.95**





### LEGO DUPLO PLAYWALL #779805

**New**

These large flat base plates (77 cm x 38 cm, or about 30" x 15") can be attached to the wall and have storage bins (19 cm or 7 1/2" wide) attached to the bottom to catch falling pieces. They're great for use with LEGO DUPLO Numbers and Letters (not included), but they can be used with any LEGO DUPLO elements.

*Level: Early Learning*

**D779805 (Set of 2)—\$165.25**



### LEGO DUPLO MOSAICS #779534

258 elements

This unusual set is perfect for teachers who wish to introduce their students to concepts of two-dimensional geometry (shapes, patterns, and symmetry). The tiles are also ideal for sorting activities and making designs. The set contains 18 blank tiles and 240 geometric tiles, including squares, triangles, circles, quarter circles, and others. Activity cards are included to help teachers plan group activities.

*Level: Early Learning*

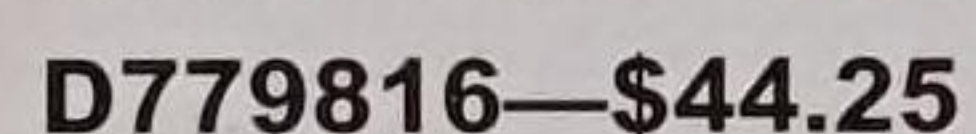
**D779534—\$63**

**Call Toll Free!**  
**800-362-4308**

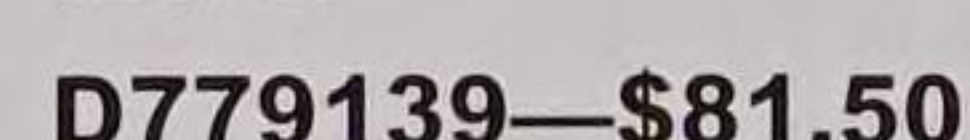
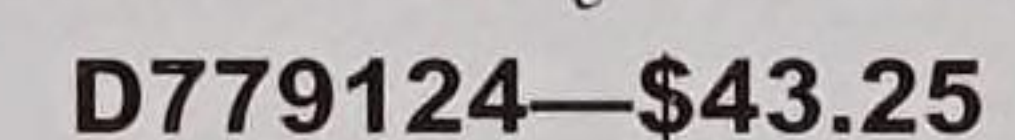




**D779533—\$42**



**D779535—\$56**



**Ideal Classroom Setup**  
for 24 students

- 1 - LEGO DUPLO Playwall  
(D779805)
- 1 - LEGO DUPLO Mosaics  
(D779534)
- 2 - LEGO Letters  
(D779535)
- 1 - LEGO Numbers  
(D779533)
- 1 - LEGO DUPLO Basic  
Medium Box  
(D779065) pg. 104

Total: \$413.50  
plus shipping



**LEGO DUPLO BASIC TUBES****#779087**

156 elements

The *Basic Tubes* set includes 32 tubes from which children can create a variety of connectors, slides, and tunnels. They can then watch balls and other elements roll through their creations. The set's elements also include four figures, four balls, two bicycles, and two building plates, as well as basic building blocks. This is a great set for building motor skills through stacking, sorting, and free-form building.

Level: *Early Learning*

**D779087—\$64.75**

**HARDHAT CD-ROM**

Kids punch in on the time clock and get to work creating their own skyscraper, castle, or anything else they dream up! With more than 100 building materials ranging from brick to plaid and elements ranging from doors to flags to neon signs, kids can create and animate fantastic structures.

When they're finished building, kids can save, print, or demolish their building with a wrecking ball, dynamite, earthquake, or even an alien spaceship. *Hardhat* is easy for kids to use and introduces them to the playful side of the working world. Ages 5 and up.

**D756049 Macintosh CD-ROM—\$29.95**





### LEGO DUPLO FARM #779133

97 elements

This farm comes complete with 18 farm animals, six LEGO DUPLO people, a farmhouse, two tractors, a plow, and plenty of fences.

**D779133—\$91**



### UNIVERSAL SCHOOL SET #779453

690 elements

An excellent resource for a wide array of building activities. Includes a mixture of basic bricks and pieces such as hinges, wheels, moveable platforms, and windows. The five full-color idea cards have building hints and topic-related models in contexts, including robotic arms, grippers, moon-base vehicles, wheeled dragons, and airborne vehicles. The set also includes a sorting tray and snap-lid storage case.

**D779453—\$76.25**



**New**

### CHILDREN'S DICTIONARY OF OCCUPATIONS: THIRD EDITION BOOK AND CD-ROM

This book and CD-ROM provides one-paragraph summaries of the work done in a wide variety of occupations, ranging from fast-food workers to computer programmers to veterinarians. The book's cartoon illustrations add humor, and phonetic pronunciations of even the simplest terms enable younger students to use the book on their own. The "Looking Ahead" section at the back of the book covers resumes, cover letters, applications, and interviews. Children's voices on the CD-ROM make it user-friendly, as well. Paperback, 126 pages.

*Level: Intermediate-Middle School*

**D990202—\$99**



### X-LARGE YELLOW STORAGE BIN #779920

17" x 17" x 7.5"

**D779920—\$14.50**

### LARGE RED STORAGE BIN #779921

17" x 17" x 4.5"

**D779921—\$12.50**

### MEDIUM GREEN STORAGE BIN #779922

15" x 12" x 4.5"

**D779922—\$7.50**

### SMALL RED STORAGE BIN #779925

15" x 12" x 2.5"

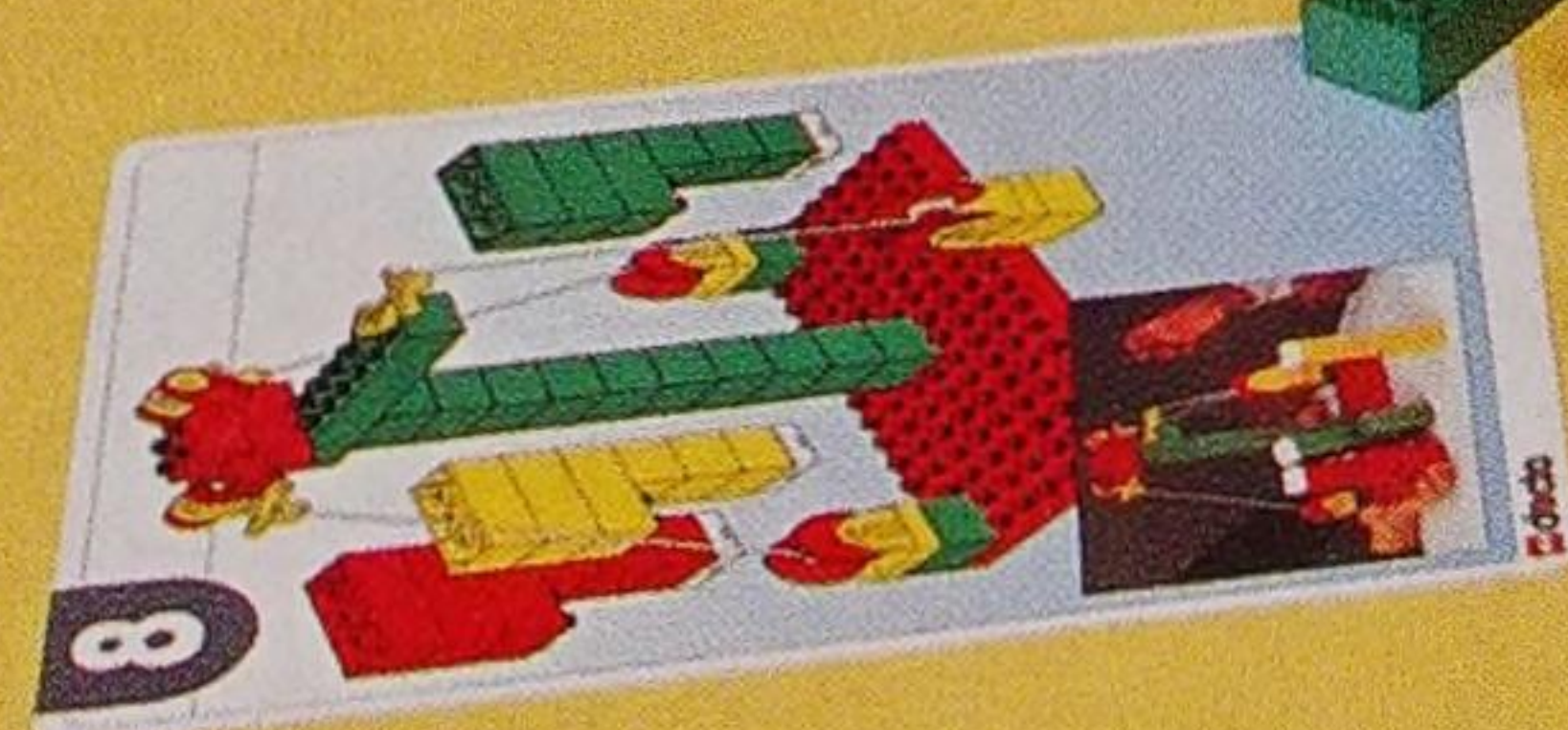
**D779925—\$5.75**

### EXTRA SMALL YELLOW STORAGE BIN #779926

12" x 7.5" x 2"

**D779926—\$4.25**

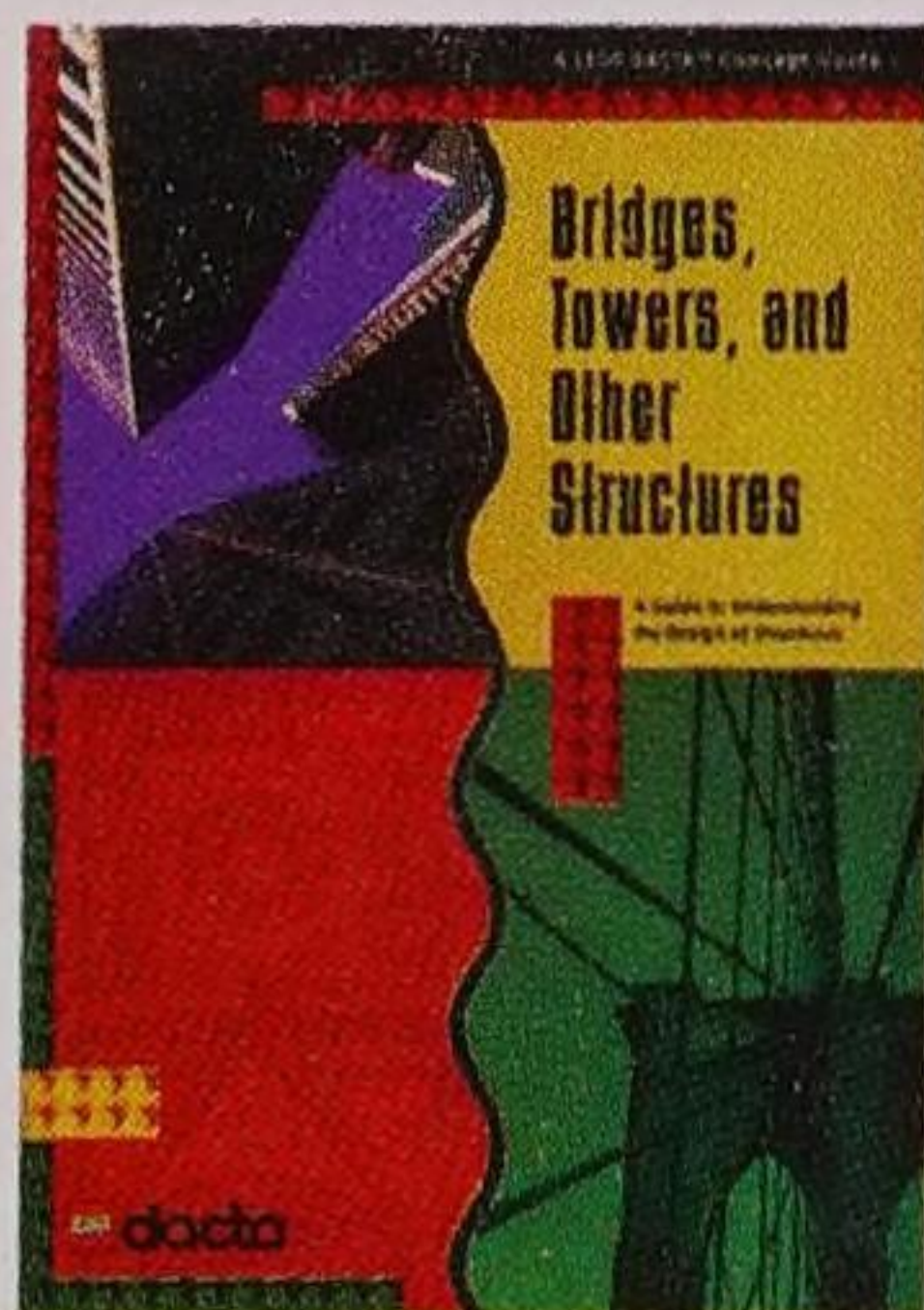


**PRIMARY TOWERS & BRIDGES SET #779660**

107 DUPLO elements

Students learn basic structure concepts with hands-on exploration! Concepts include balance within structures, ways of building structures, and stability. By building a variety of models, children can determine what is the best shape for the job. It's ideal for developing design and problem-solving skills. Storage case not included.

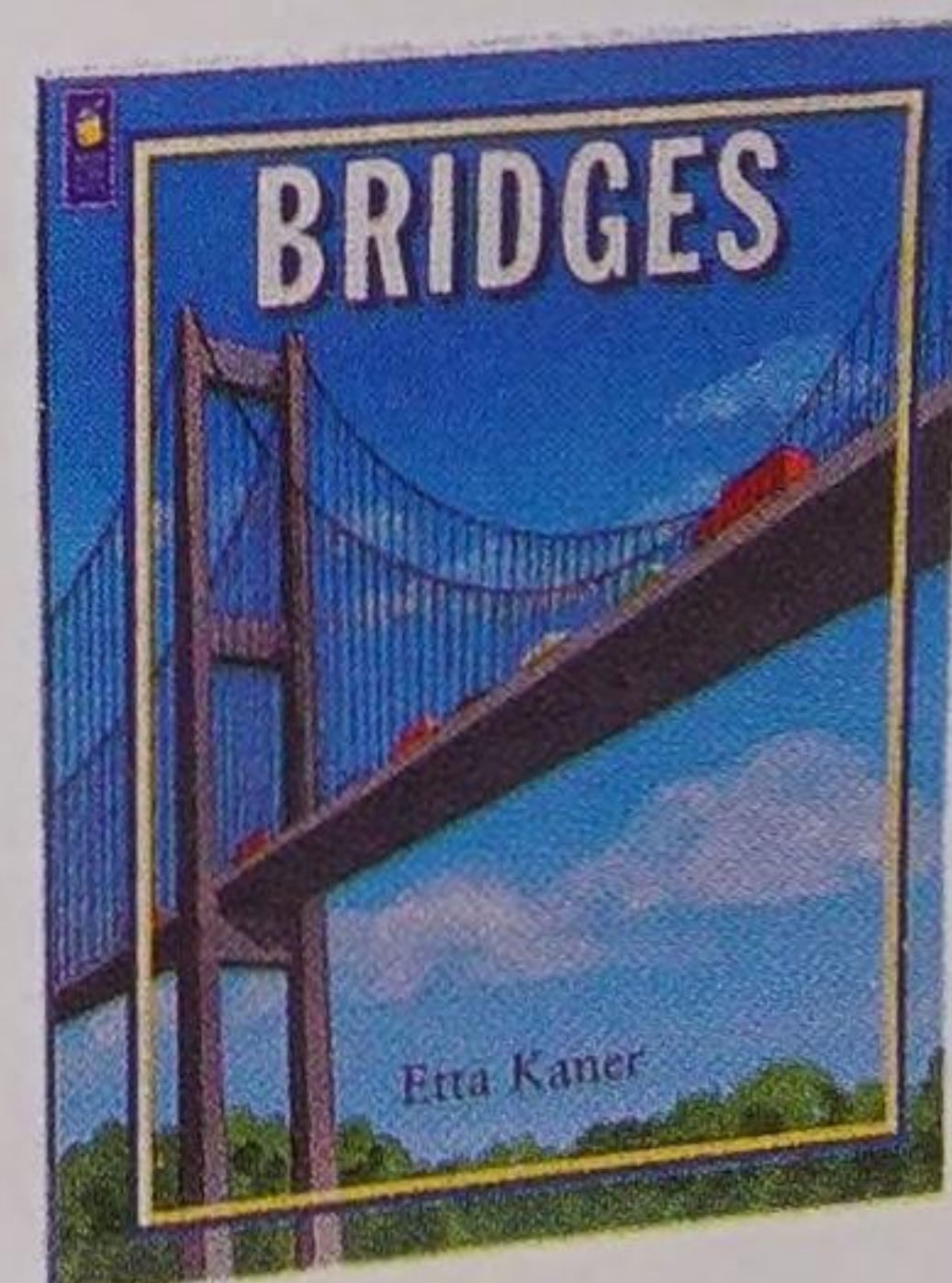
- Designed for use by teams of 2-3 children
- Teacher's notes with support for 16 activities
- 12 investigation cards for 12 models
- 2 problem-solving cards
- Inventory card

**D779660—\$73.50****CONCEPT GUIDE: BRIDGES, TOWERS, AND OTHER STRUCTURES #200039**

This excellent 23-page guide is a great way to introduce students to the basic concepts of structural design. It takes a fascinating look at bridges, towers, skyscrapers, dams, ancient buildings, and even structural elements of nature. Use with the Primary Towers & Bridges Set #779660. Paperback.

*Level: Middle School-High School***D200039—\$15.50****BRIDGES ~~New~~**

Budding engineers first read a brief description of a type of bridge – beam, arch, suspension, or moveable – and then follow the simple instructions to build their own bridges, using simple materials such as paper and tape. Questions lead them in the discovery of basic engineering principles. Paperback, 48 pages.

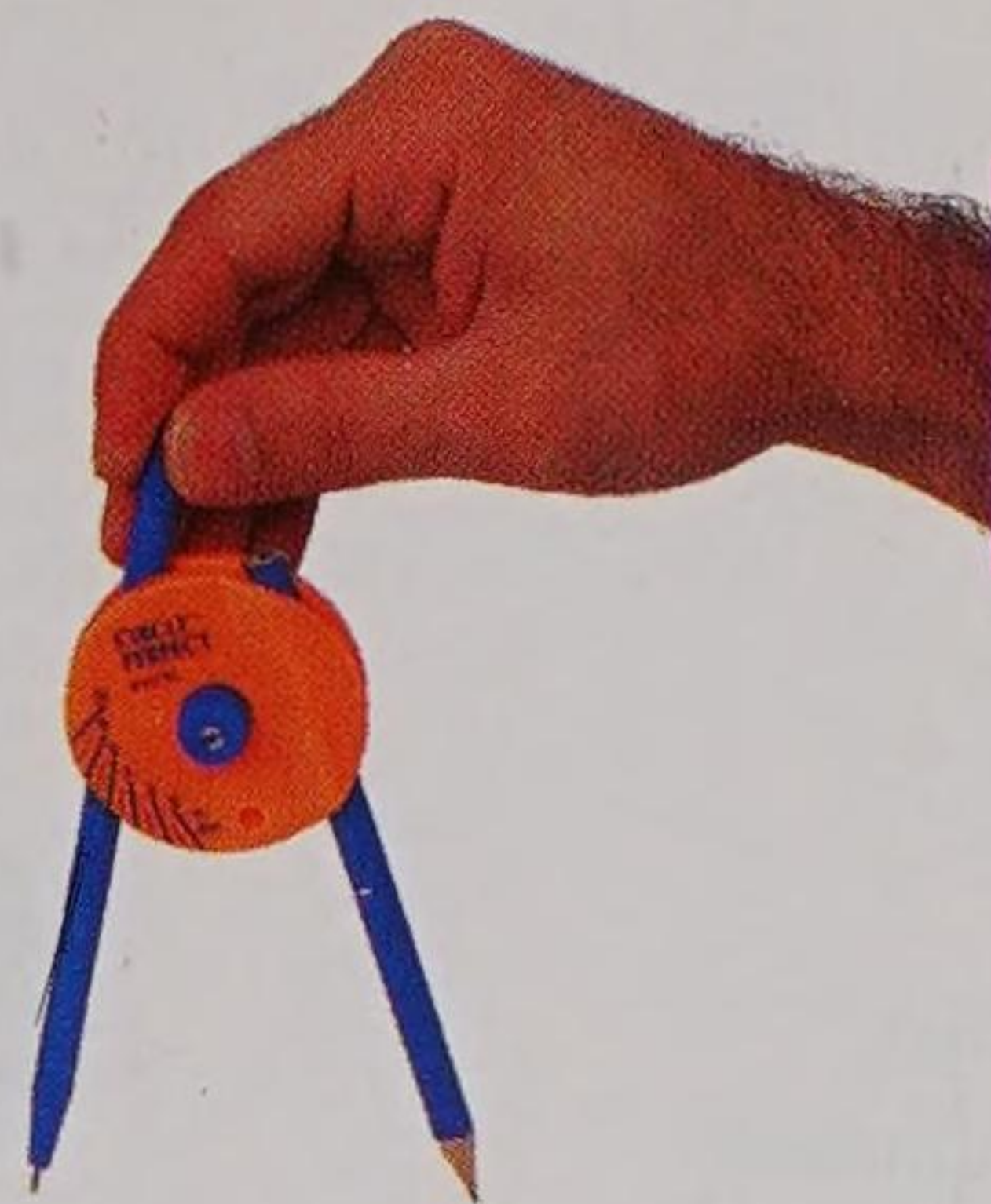
*Level: Intermediate***D990218—\$9.95****Order Online!****[www.pitsco-legodacta-store.com](http://www.pitsco-legodacta-store.com)**



## CIRCLE PERFECT COMPASS

Finally, a compass that's safe and easy enough for younger students to operate, yet precise enough for the most demanding user. The *Circle Perfect Compass* firmly clamps in position to hold the desired radius setting. You can substitute the included pencil for another type of writing utensil, such as a felt tip marker. The stylus and pencil can be retracted into the shell for safe carrying. One compass draws circles up to 12 inches/15 centimeters in diameter, or you can connect two *Circle Perfect Compasses* to make larger circles.

**D756084—\$1.95**



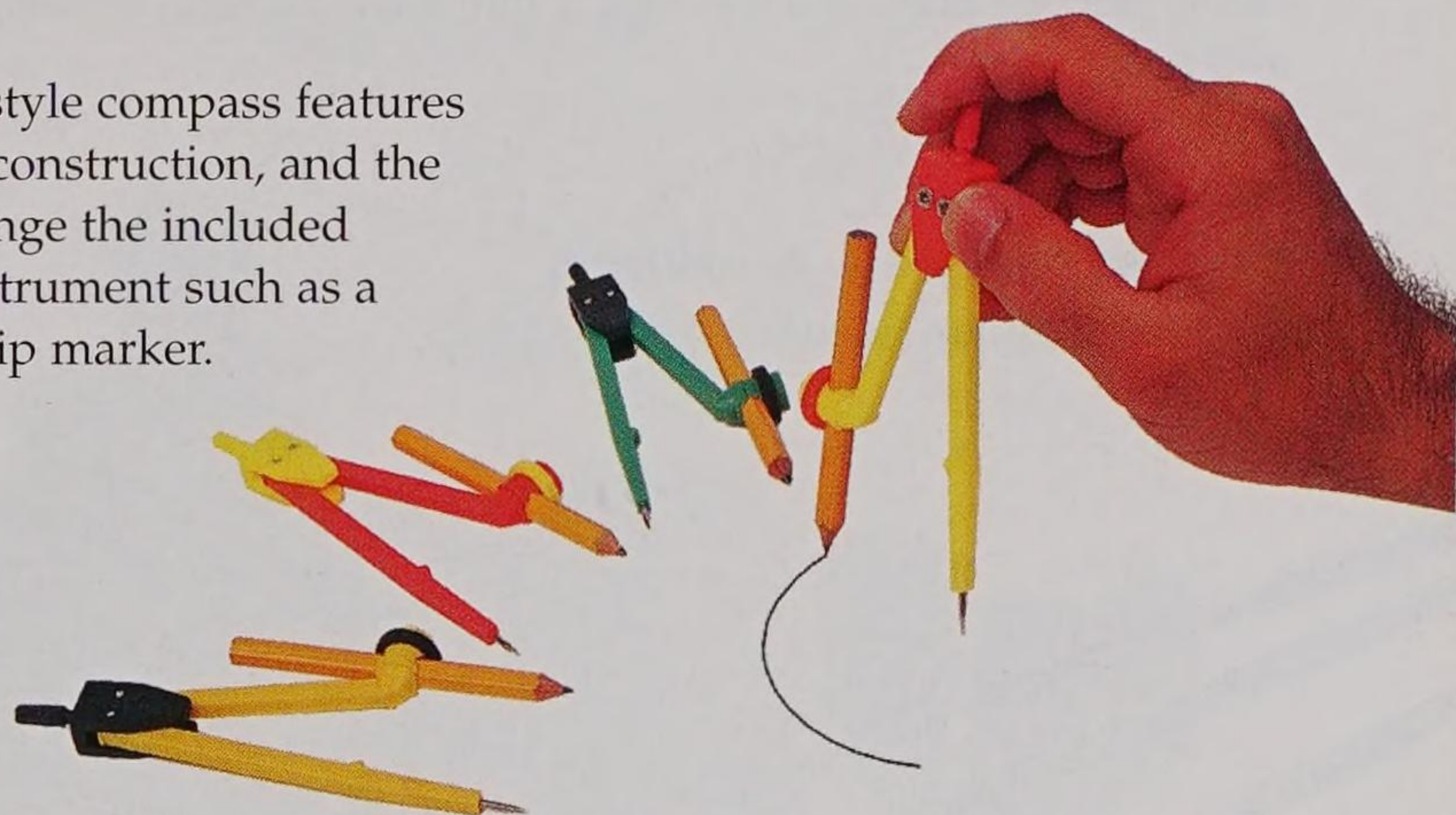
## Tools

97

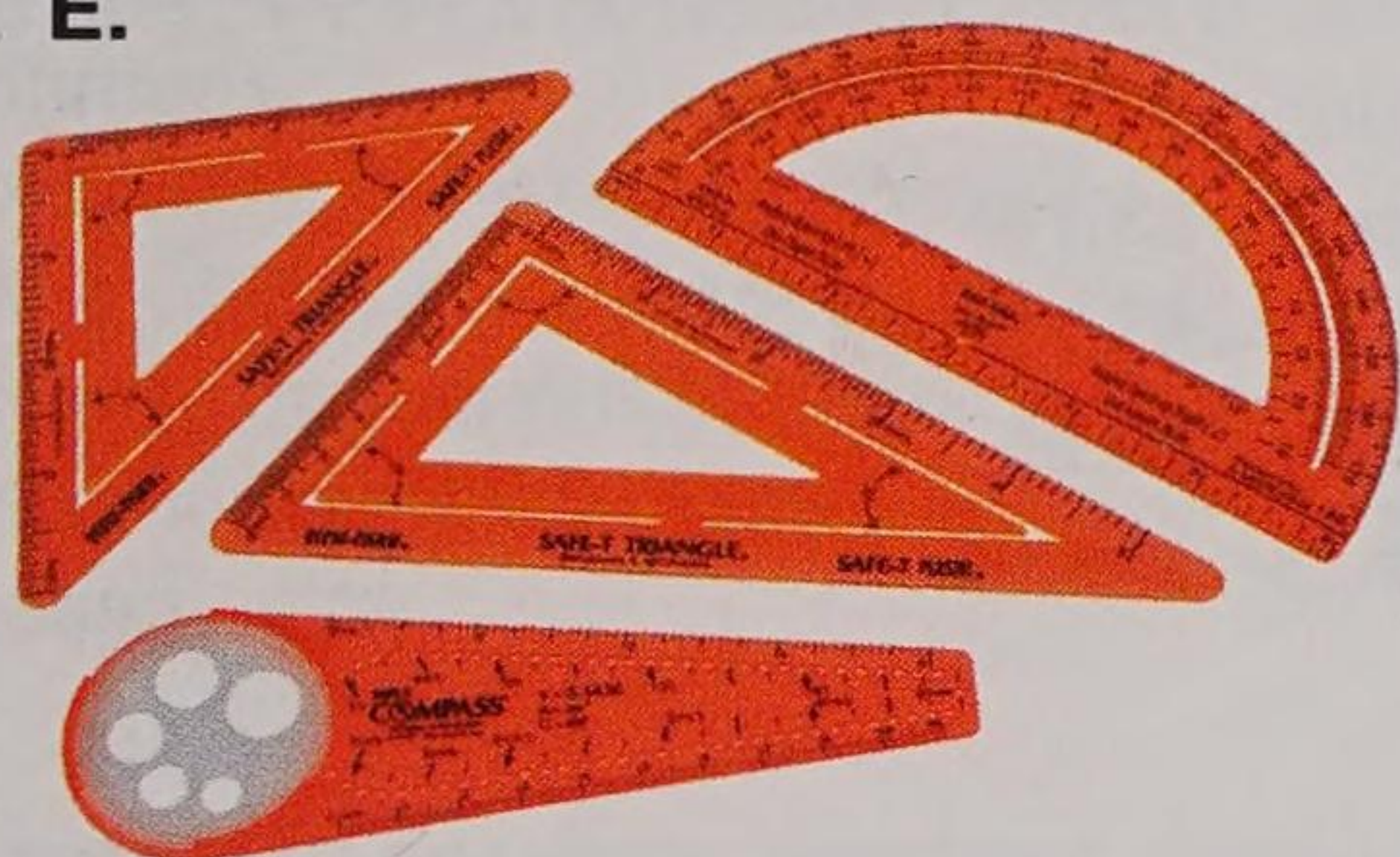
## NEON COMPASS

This traditional style compass features bright colors, plastic construction, and the ability to quickly change the included pencil for another instrument such as a ballpoint pen or felt tip marker.

**D756095—\$1.50**



E.

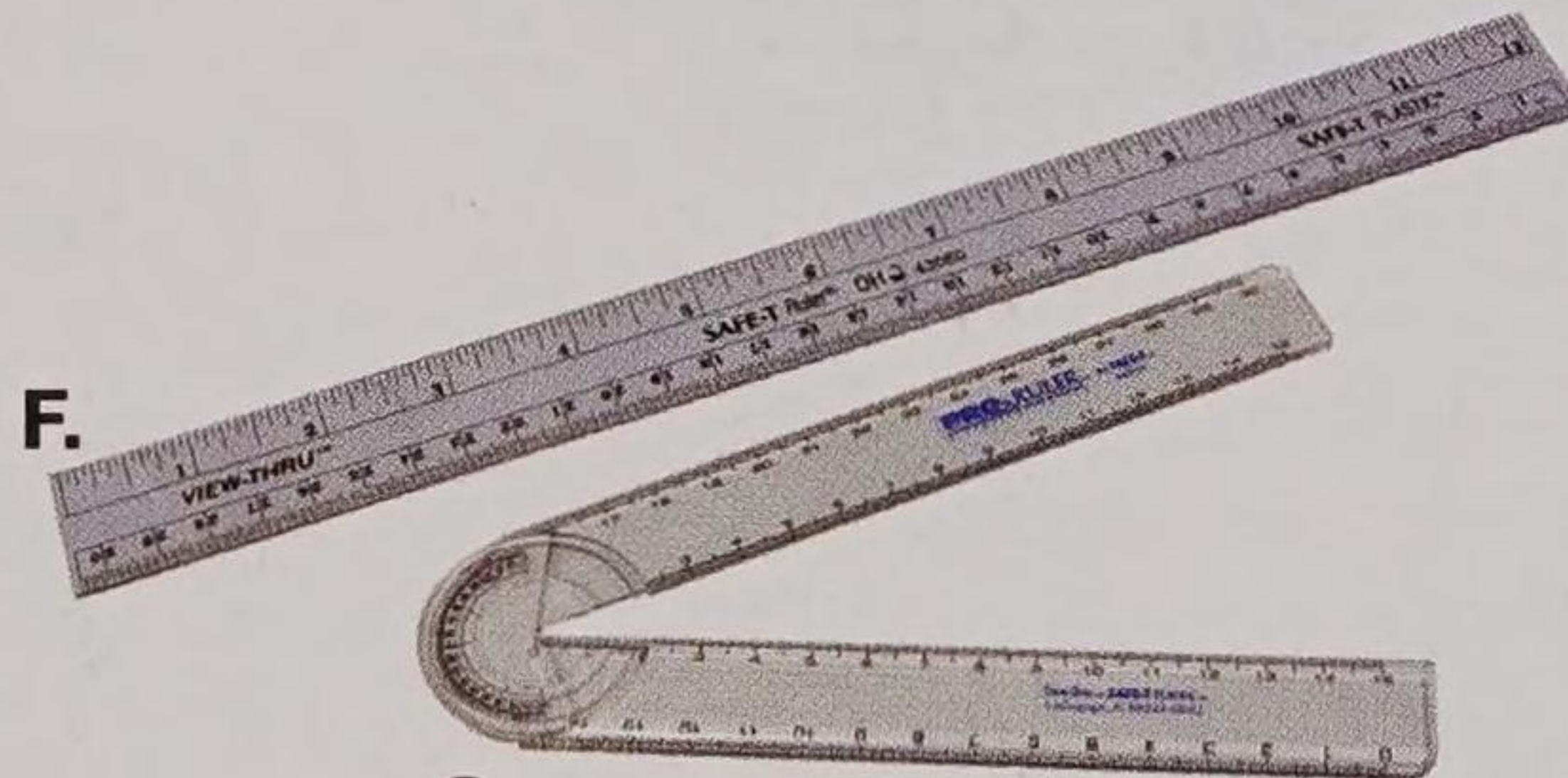


C.

D.



F.



G.

H.



## SAFE-T™ DRAWING AND MEASURING INSTRUMENTS

Ideal for classroom use! These pliable, translucent instruments are ultra-safe. They have no sharp points and are shatter resistant. They feature both English and metric units, so they're ideal for use in math, art, science, vocational, and early learning.

**A. Safe-T Compass D756090—\$1.10**

**B. Ruler (orange) 6" D756094—\$.50**

**C. Ruler (orange) 12" D756093—\$.75**

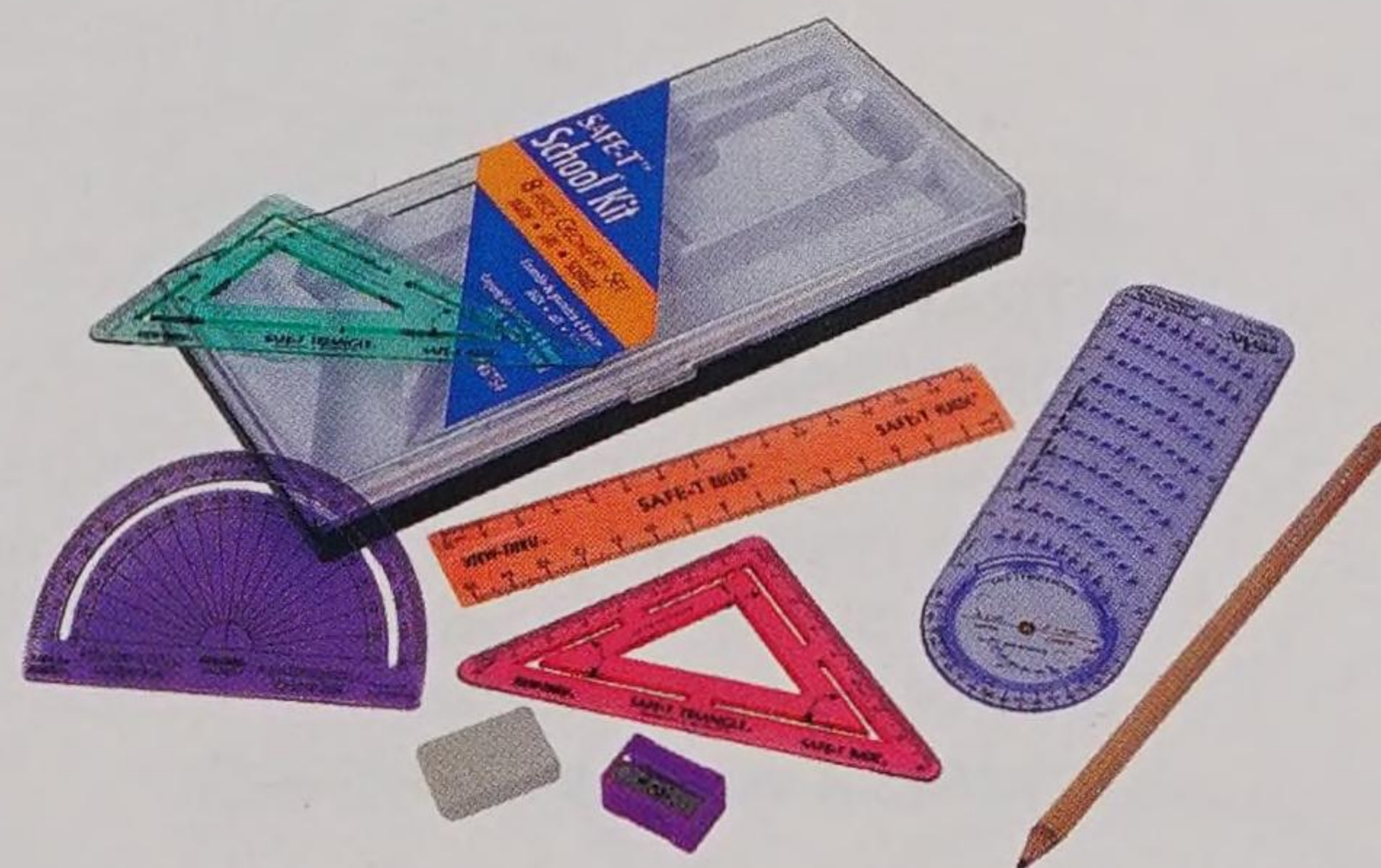
**D. Protractor (orange) 180°/6" D756089—\$.65**

**E. Four-Piece Geometry Set D756085—\$2.85**

**F. Ruler (clear) 12" D756092—\$.80**

**G. Pro Ruler D756088—\$3.25**

**H. Tape Measure D756087—\$.95**



## SAFE-T EIGHT-PIECE GEOMETRY SET

One word comes to mind when you see this kit: *nifty*. That's because all of the compact drawing instruments are thoughtfully designed and fit securely into the dandy snap-lid storage case. The kit includes: a 15 cm ruler, protractor, two triangles, an mmArc Safe-T compass, pencil, eraser, and sharpener.

**D756086—\$5.95**

## SAFE-T COMPASS PLUS

The *Safe-T Compass Plus* draws it all: circles, arcs, lines, and angles with ease and ultimate precision. Features the *Safe-T Compass* action with no dangerous sharp points. Constructs circles from 2 to 24 centimeters in diameter on 1 millimeter radius increments. Straight edge sides have inches/metric scales to 4.75 inches/11 centimeters.

**D756091—\$2.30**





## 98 Tools & Parts

### ACRYLIC PAINT 18 PACK (NONTOXIC)

Water soluble, dries quickly. Comes in 1/2-fluid ounce container. Use on paper, wood, and plastic. Color is permanent when dry; cleans with water. Colors include: avocado, medium blue, gold, sandalwood, parrot green, shocking pink, flesh, brown, black, purple, brick red, orange, white, lilac, vanilla, yellow, blue, and red.

**D753375—\$9.95**

**10 for \$89.60**

### D753469 Paintbrush Assortment

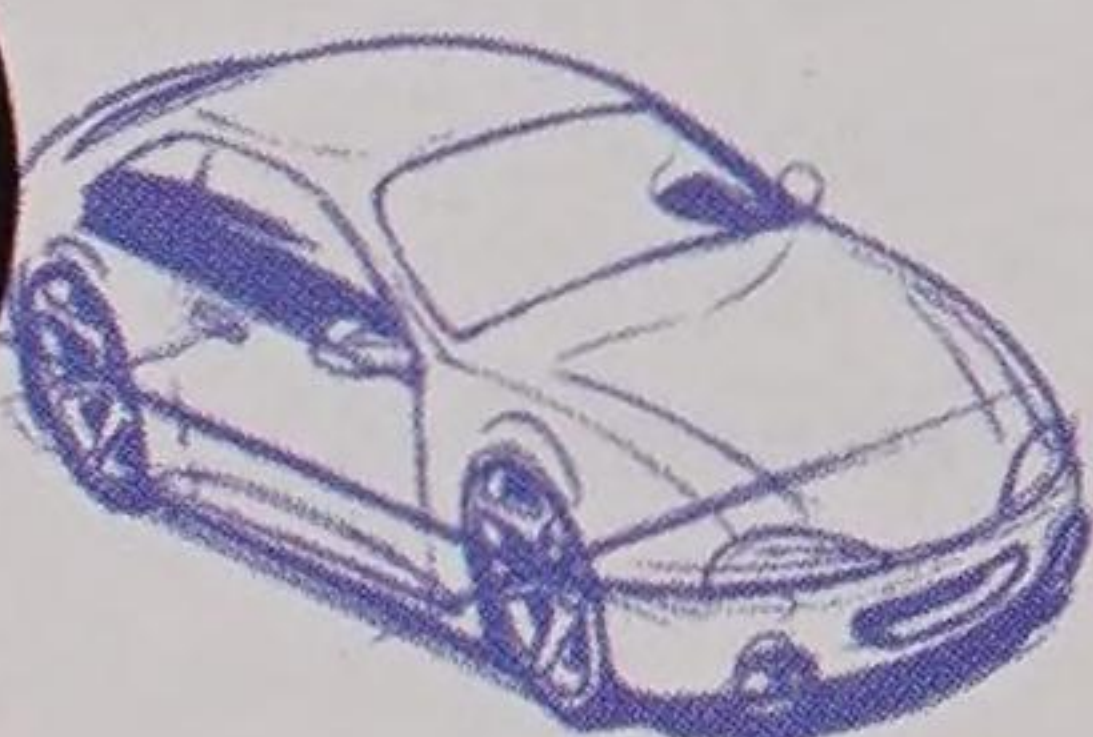
**(144 craft brushes, sizes 1-6)—\$11.95**



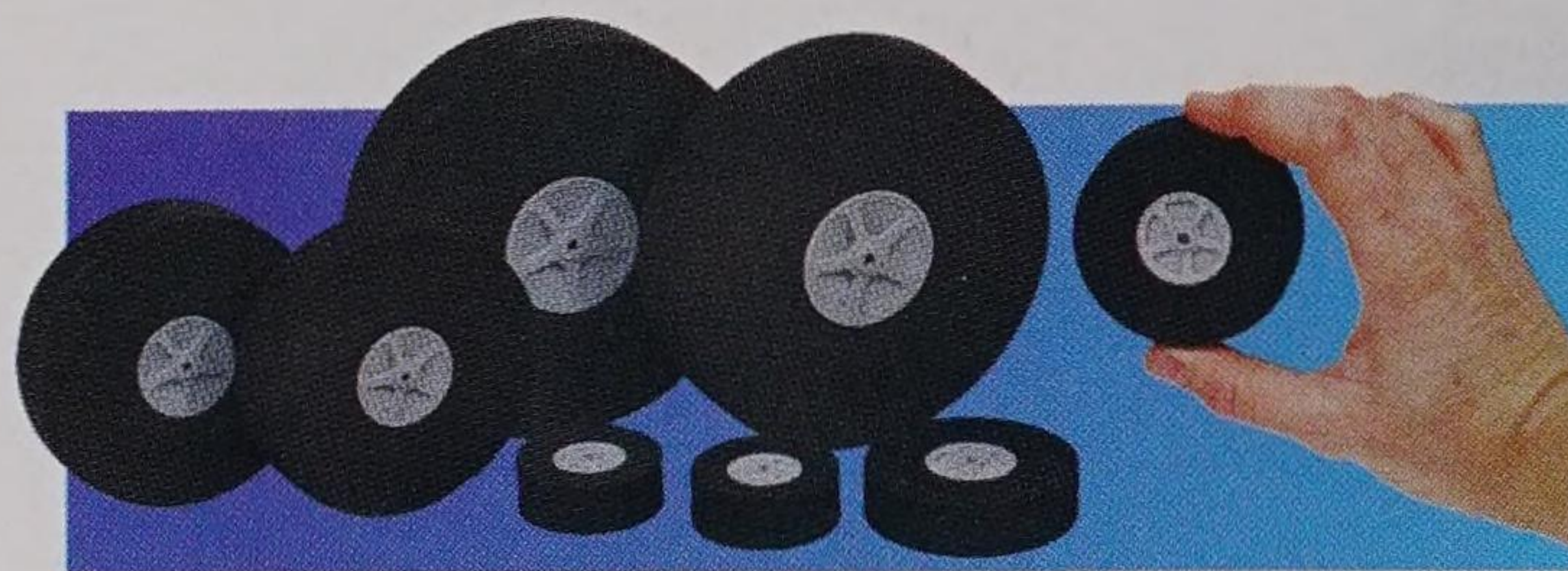
### ART STRAWS FOR STRUCTURES

Unwaxed paper straws are 16 inches in length. Use for bridge and tower building and architectural models. Straws make lightweight but strong and durable geometric shapes.

**D752843 4 mm (1,800 qty)—\$29**



**Call Toll Free!**  
**800-362-4308**



### LITE FLITE WHEELS

Use these lightweight wheels for a variety of vehicle applications. Rubber tire material is firm for low rolling resistance, yet provides excellent traction. Hubs will accept 3 mm or 1/8" axles or can be drilled for axles up to 3/16" in diameter. Wheels available in 2", 3", 4", and 6" diameters. 2 per pkg.

**D754447 (2" wheel)—\$3.75**

**D754448 (3" wheel)—\$4.75**

**D754449 (4" wheel)—\$8.95**

**D754450 (6" wheel)—\$16.95**



### SPIDERWIRE

A must for mousetrap vehicles, it is soft as silk, has very little stretch, and yet is as strong as steel. Allows you to have great strength with an ultrasmall diameter. Use *Spiderwire* to put a spin on projects in which you can really get caught up! 150 yards, 20-pound strength, 6-pound diameter test.

**D755021—\$32**

### GT-F AND GT-R WHEELS

**PITSCO**  
INNOVATIVE EDUCATION

*GT-F* and *GT-R* Wheels are engineered to perform on any car design. Perfect for your shell dragsters (the axle hole goes through the wheel). One of the lightest, fastest designs we have ever created. So fast, in fact, that many racers use them for their rail-type cars.

**GT-R (REAR)** 1-5/8" dia x 5/8" w

**D713327 pkg of 100—\$15**

**GT-F (FRONT)** 1-3/8" dia x 3/16" w

**D713330 pkg of 100—\$12**





### EXTRA MEASURES ELECTRONIC SCALE

This economical electronic scale measures in both ounces and grams and is suitable for weighing objects up to one kilogram or two pounds, three ounces. The scale operates on four AA batteries only.

Resolution:

- up to 500 g @ 1-gram increments
- 500 g - 1,000 g @ 2-gram increments
- up to 16 ounces @ 0.25-ounce increments
- 16-36 ounces @ 0.5-ounce increments

**D756096—\$75**



### EXTRA MEASURES METRIC CUBES

Students can gain a better understanding of the metric system with *Extra Measures Metric Cubes*. The set has 1,000 plastic blocks, measuring one cubic centimeter and weighing one gram each. There are 100 cubes of each of 10 different colors.

The interlocking cubes can be assembled to form a larger box that measures one cubic decimeter and weighs one kilogram. It's an excellent hands-on way for students to conceptualize the metric system, its units, and the powers of ten. We recommend that you use this product with a digital gram scale (not included).

**D756097—\$23.50**



### RED ELECTRICAL WIRE

For general circuit connections. Insulated, 22 gauge, 10-ft lengths.

**D756142—\$1.50**



### JERSEY GLOVES

Knit jersey gloves with a snug knit wrist. Great for students ages 8-10!

**BLUE D756140—\$2.50**

**RED D756139—\$2.50**



### MINI GOGGLES

These smaller safety goggles are just right for elementary and middle school students.

**D750903—\$5.95**

**10 for \$53.60**



### NICAD BATTERY CHARGER AND RECHARGEABLE BATTERIES

This versatile charger will charge five different sizes of nicad batteries: AA, AAA, C, D, and 9V. The nickel-cadmium cells can be used in hundreds of devices in the place of throwaway alkaline cells. They can be charged and recharged over and over again, saving you hundreds of dollars in disposable batteries. Battery life will vary according to battery size, device, and use. Works well with LEGO Dacta products – the new RCX Brick and *Amusement Park Set* use six AA cells and one nine-volt cell.

**D712514 Battery Charger—\$17.50**

**D712515 AA cell (2 per pkg)—\$5.75**

**D712516 C cell (2 per pkg)—\$9.75**

**D712517 9V (1 per pkg)—\$9.75**



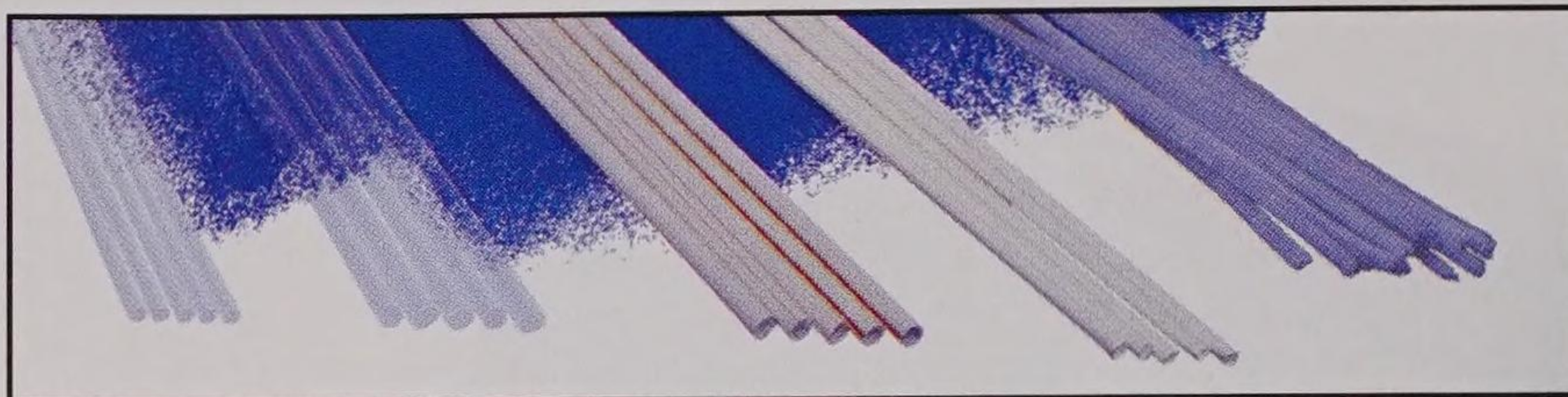
### TEST LEADS

Use these handy test leads for a variety of projects. Alligator-clip ends ensure a positive connection. 24" long, 10 assorted colors.

**D756197—\$6.50**



# 100 Parts



## PLASTIC STRAWS FOR STRUCTURES

Use for bridge- and structure-building competitions and activities. 7-3/4" in length.

**D753334 Clear, 1/8" dia (500 qty)—\$3.50**

**D715909 Clear, 1/4" dia (250 qty)—\$3**

**D715910 White/red stripe, 1/4" dia (250 qty)—\$3**

## ART STRAWS FOR STRUCTURES

Unwaxed paper straws are 16 inches in length. Use for bridge and tower building and architectural models. Straws make lightweight but strong and durable geometric shapes.

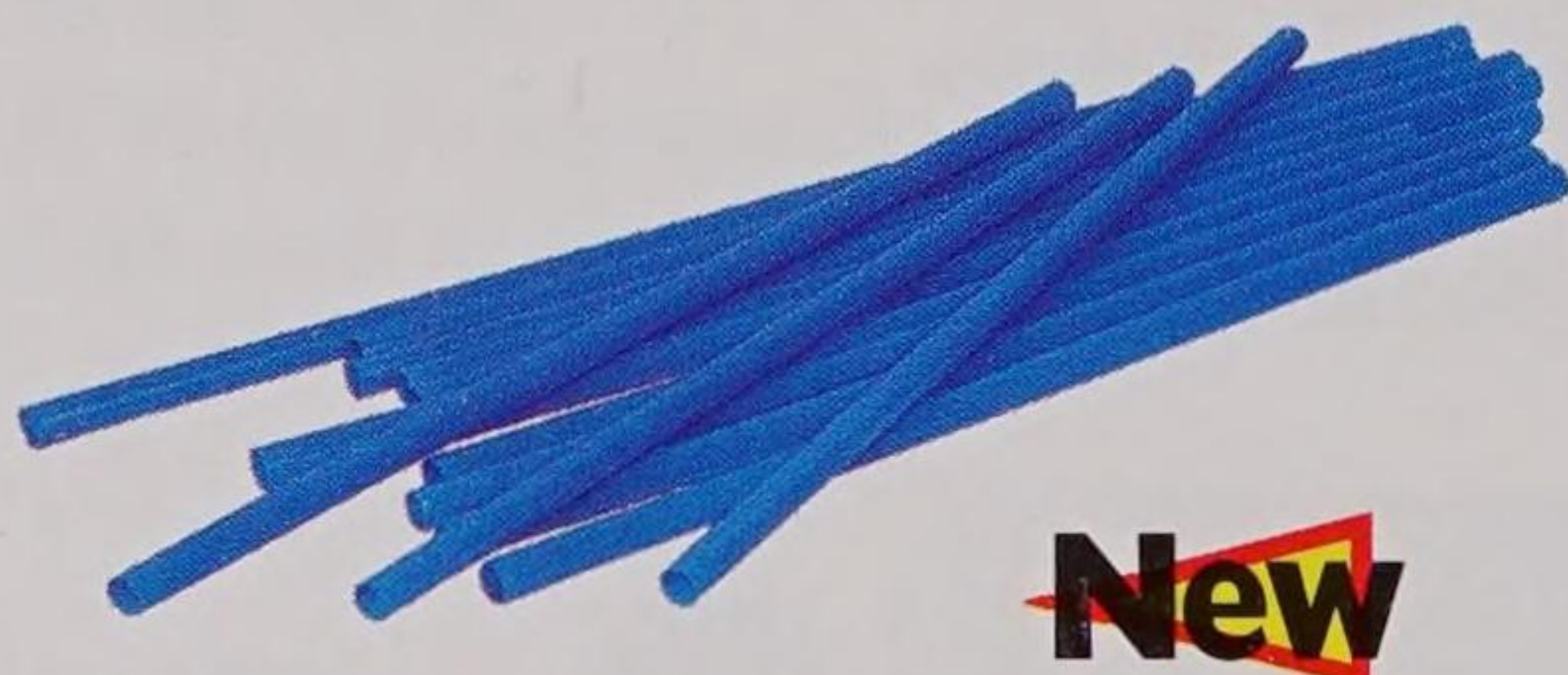
**D752843 Art Straws, 4 mm (1,800 qty)—\$29**

## LONG STRAWS

**New**

Use for classroom building projects. Clear straws are 10" long and approximately 1/4" in diameter.

**D756856 (Box of 250)—\$3.50**



**New**

## NEON BLUE PLASTIC STRAWS

Use these straws to build hundreds of structures, from bridges to balconies! Straws are 7-5/8" long and approximately 1/4" in diameter.

**D756820 (250 qty)—\$3**

## PIPE CLEANERS

One of the innovative folks here at Pitsco thought of a new way to attach straws together for structures – pipe cleaners. Try it, you'll like it. Colors may vary, pkg of 100.

**D754853—\$3**



## MASKING TAPE

1 inch x 60 yards.

**D751962—\$1.25 ea**



## DUCT TAPE

Choose from red, blue, green, or yellow. 60 yards.

**Red D756827**

**Blue D756829**

**Green D756828**

**Yellow D756830**

**\$12.95 ea**



## LIGHT TWINE

Cotton string, roll of 430 feet.

**D753916—\$2**



## LONG BALLOONS

2" x 60". Pkg of 25.

**D756137—\$3.50**



## SPONGE BALLS

These lightweight foam balls are three inches in diameter. They're great for experiments that involve rolling motion. Colors vary. Three per package.

**D714016—\$1.15**



## HOOK-AND-LOOP FASTENER

Great for a multitude of applications! One 10-foot strip of each material. 3/4" wide.

**D751974—\$22.95**



## BALLOONS

Packages of 25.

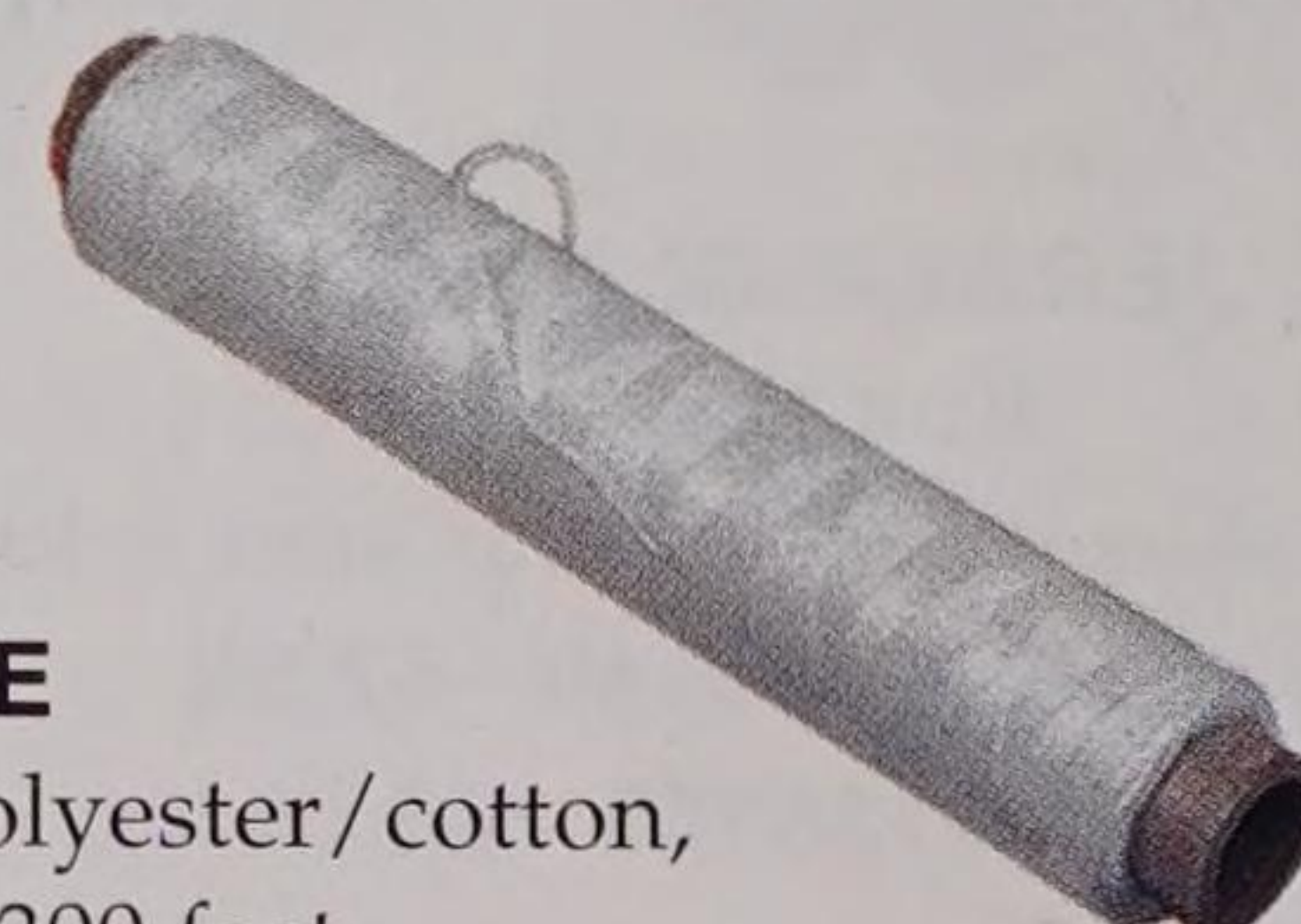
**9" D756138—\$3.95**

**11" D751965—\$3.95**



## BRADS

**D756135 (100 qty) —\$3.95**



## KITE TWINE

Polyester/cotton, roll of 300 feet.

**D751912—\$2**

**FreeFax™ Orders!**  
**888-534-6784**





### COLORED STRUCTURES GLUE

Pink, green, and blue glue is a hit with teachers and students alike. Specially formulated for student-engineered wooden structures.

	Pink	Green	Blue	
2 oz	D751745	D751751	D751746	\$1.25 ea
16 oz	D751747	D751749	D751748	\$3.50 ea
10 of 2 oz (one color) for \$11.30				
10 of 16 oz (one color) for \$31.50				

### EMPTY TWO-OUNCE GLUE BOTTLES WITH SPOUTS

Package of 25.  
D752058—\$9.95



### RUBBER BANDS

Variety pack. 1/4-pound box.  
D750291—\$2



### WIDE RUBBER BANDS

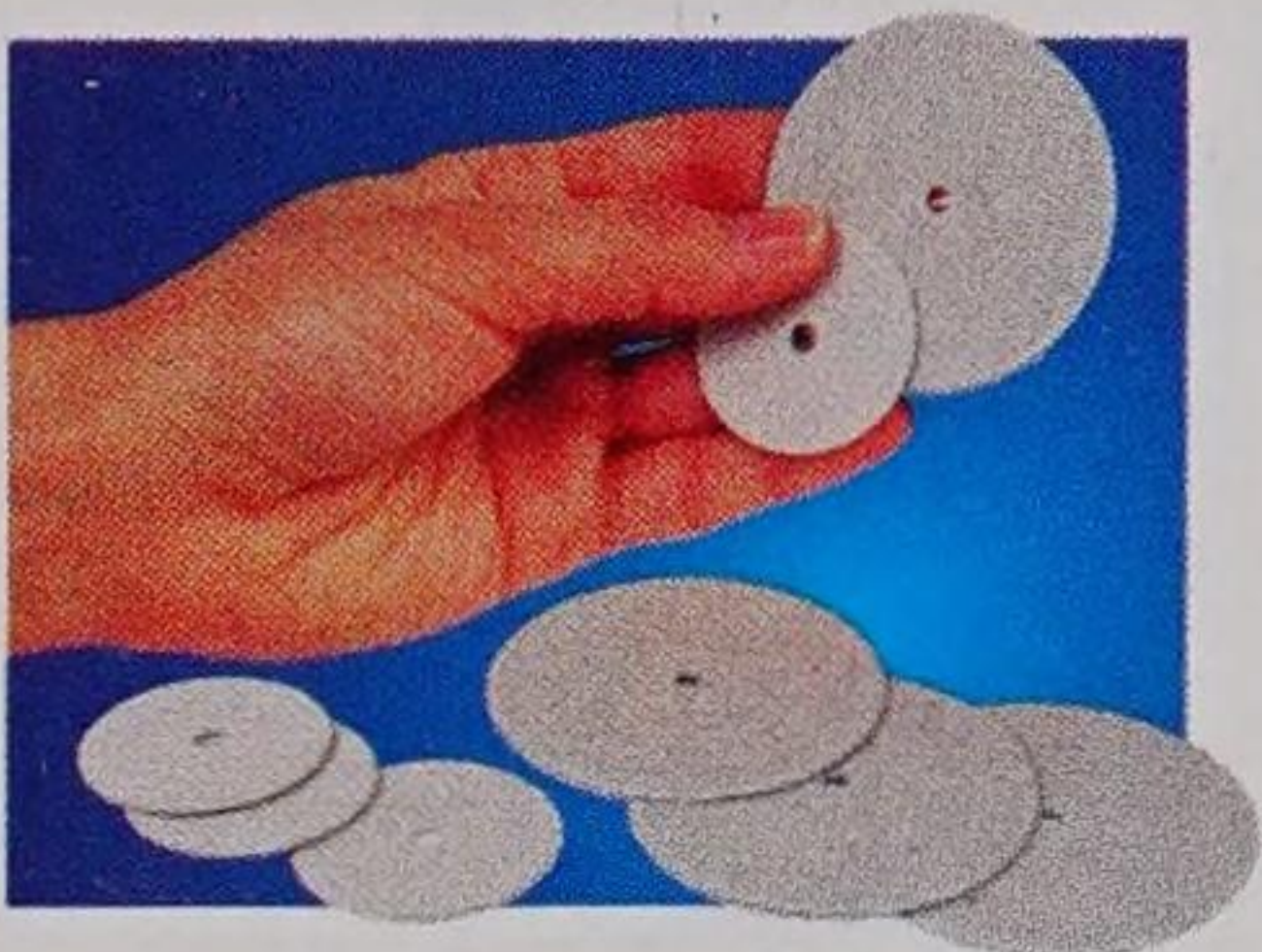
Approximately 1/2" width x 2" length. Package of 50.  
D756136—\$1.95

### BASSWOOD PIECES

For various projects.  
D751591 (1/8" x 1/8" x 24" strips)  
50 qty—\$11.50  
D751592 (1/8" x 3" x 24")  
15 qty—\$23.25  
D751593 (1/4" x 1/4" x 24" strips)  
20 qty—\$10.95  
D751625 (1/4" x 3" x 24")  
10 qty—\$20.95

### WOODEN COFFEE STIR STICKS

An inexpensive material for construction activities. 1,000 per box.  
D756134—\$3.95



### CARD WHEELS

These wheels are great for various vehicles, including mousetrap cars and paper cars. Made of sturdy card-stock material, they feature low rolling resistance. Pack includes 1,008 wheels, 504 each of 1-1/2" and 2-1/2" diameters. Inner diameter - 3/16".

D755035—\$25

D751945 (Hardwood Dowel 36" x 3/16")—\$2.25

100 for \$22

### HD BOND ADHESIVE

This revolutionary new adhesive has excellent properties for structures and other applications. It dries quickly and provides a strong, flexible bond. It is nontoxic, nonpenetrating, and dries clear. Two-ounce squeeze bottle.

D754618—\$1.95



New

### COLORED CRAFTSTICKS

D756810 (150 qty)—\$3.45

### JUMBO CRAFT STICKS

6" x 3/4" x 1/12" craft sticks. Use to create many different items. Sticks come in bag of 75.

D753725—\$2.95

### SKILL STICKS

Skill Sticks are notched craft sticks used to produce many fun projects. They are all alike but can be snapped into six various combinations. No cutting is required.

The sticks are 4-1/2" long x 3/8" wide. Ideas and instructions are included. Sticks come in bag of 1,000.

D750456—\$9.95

### DOWELS

Quality hardwood dowels, 36" long.

D753508 (1/8")—\$0.20

100 for \$18

D751945 (3/16")—\$0.25

100 for \$22

D753474 (1/4")—\$0.30

100 for \$27

D753475 (5/16")—\$0.40

100 for \$36

D753476 (3/8")—\$0.50

100 for \$45

D753477 (1/2")—\$0.75

100 for \$68

D753478 (5/8")—\$1.15

100 for \$104

D753479 (3/4")—\$1.40

100 for \$126

D753480 (1")—\$2.15

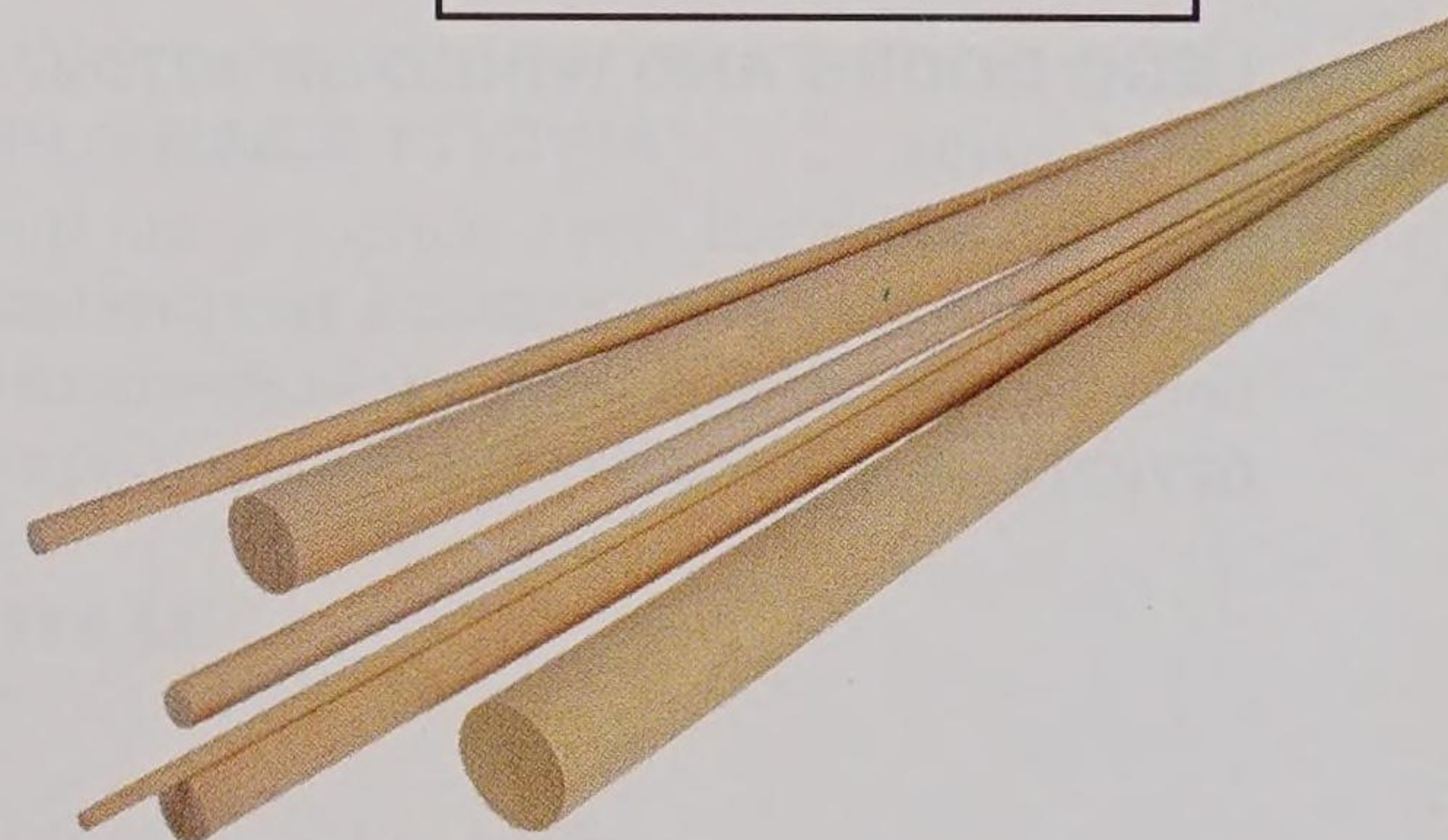
100 for \$194



### FISHING LINE

20-pound test. 225 yards.

D756133—\$2.50





## 102 Resources & Parts



### LEGO SYSTEM ROOF TILES #779265

250 elements

This set includes roof tiles in five different shapes. Children can build roofs, pyramids, and much more.

**D779265—\$27**



### LEGO DUPLO COMMUNITY WORKERS #779170

This set of 18 figures includes a doctor, a firefighter, a mechanic, a police officer, and more! Three generations are included, too – grandparents, parents, and babies. A great supplement to any basic LEGO DUPLO set, it lets kids populate their towns with citizens and workers.

**D779170—\$30.75**



### LEGO SYSTEM DOORS AND WINDOWS #779274

260 elements

With additional doors, windows, and shutters in your LEGO collection, every child can give that house the perfect finishing touches. Possible to make 70 windows and 30 doors.

**D779274—\$27**



### LEGO BASIC ZOO #779250

986 elements

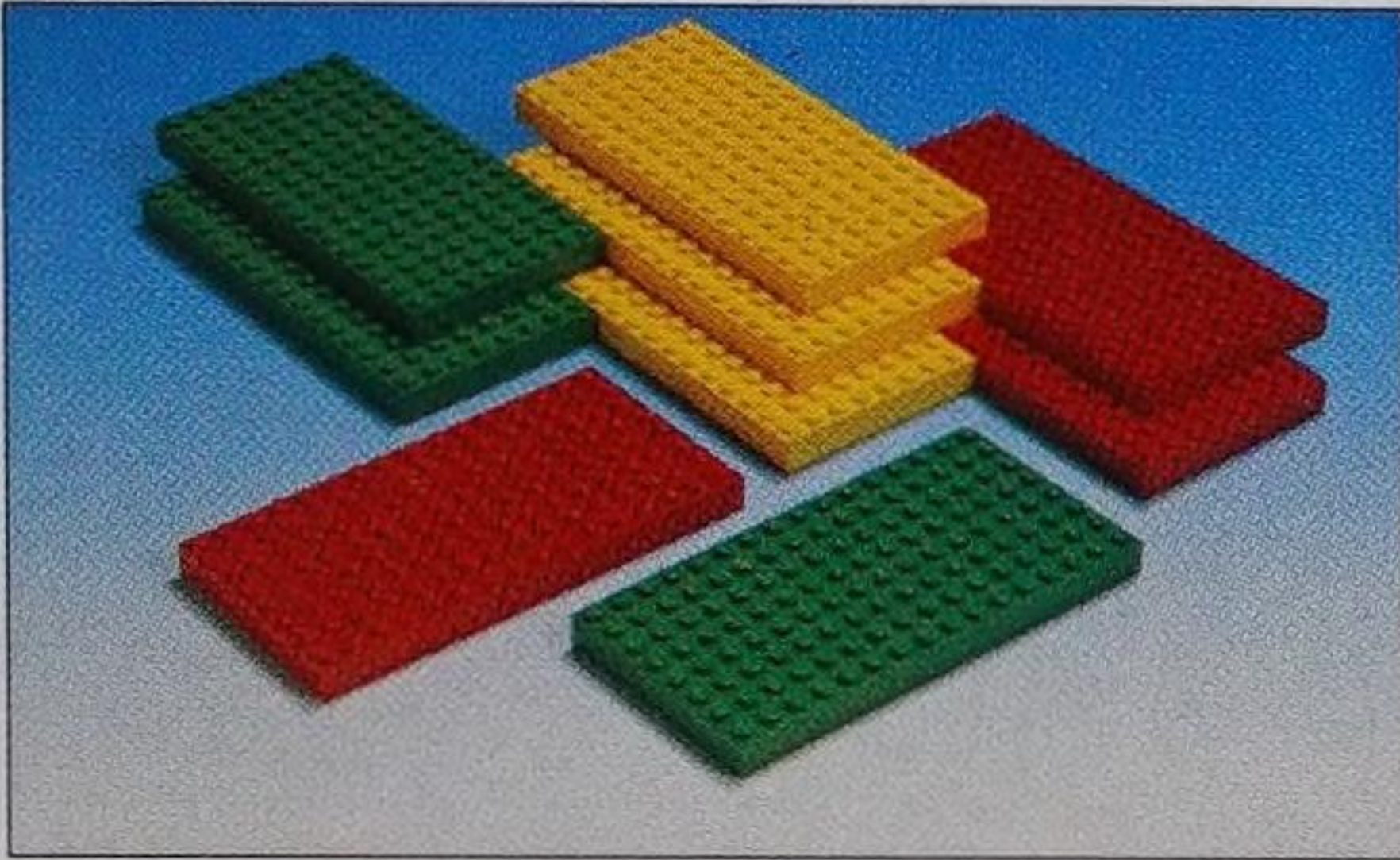
Terrific! An entire zoo with possibilities for constructing funny fantasy animals or animals from the natural world. Children have everything they need to reproduce what they see and can create their own imaginative models.

**D779250—\$67**

**Order Online!**

[www.pitsco-legodacta-store.com](http://www.pitsco-legodacta-store.com)

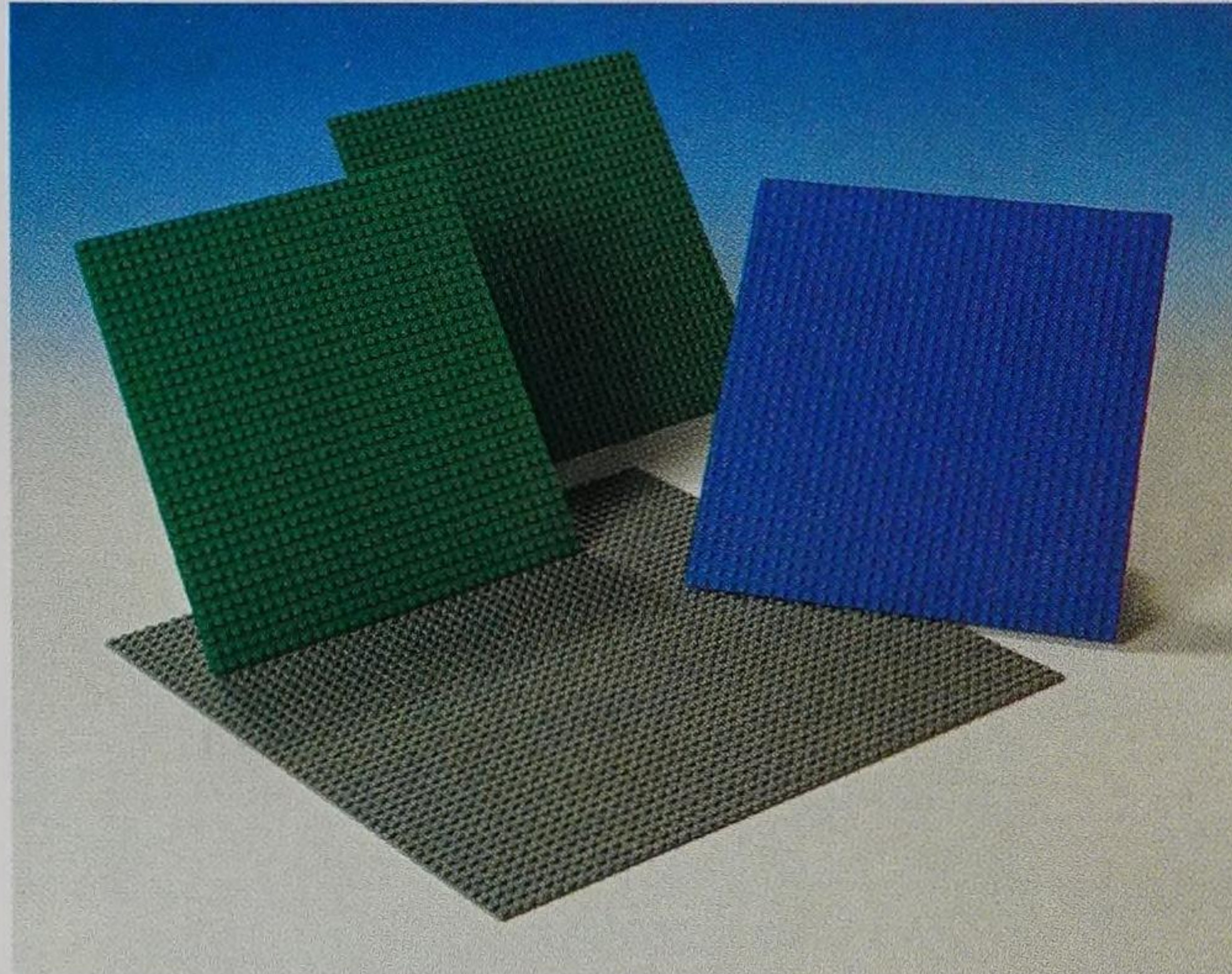




## SMALL LEGO SYSTEM BASEPLATES #779279

LEGO creations work much better with a baseplate foundation, and this set includes nine baseplates (6 cm x 12.5 cm) in three different colors: red, yellow and green.

**D779279—\$13.75**



## LARGE LEGO SYSTEM BASEPLATES #779286

Children need a foundation on which to build, and each durable baseplate forms a solid base for all LEGO building bricks. Includes one gray 38 cm x 38 cm baseplate, two green 25 cm x 25 cm baseplates, and one blue 25 cm x 25 cm baseplate.

**D779286—\$22.50**



## LEGO BASIC JUST BRICKS #779251

576 elements

Add these bricks to your existing collection and be sure not to run out. The set includes bricks in six different colors and sizes.

**D779251—\$24.50**

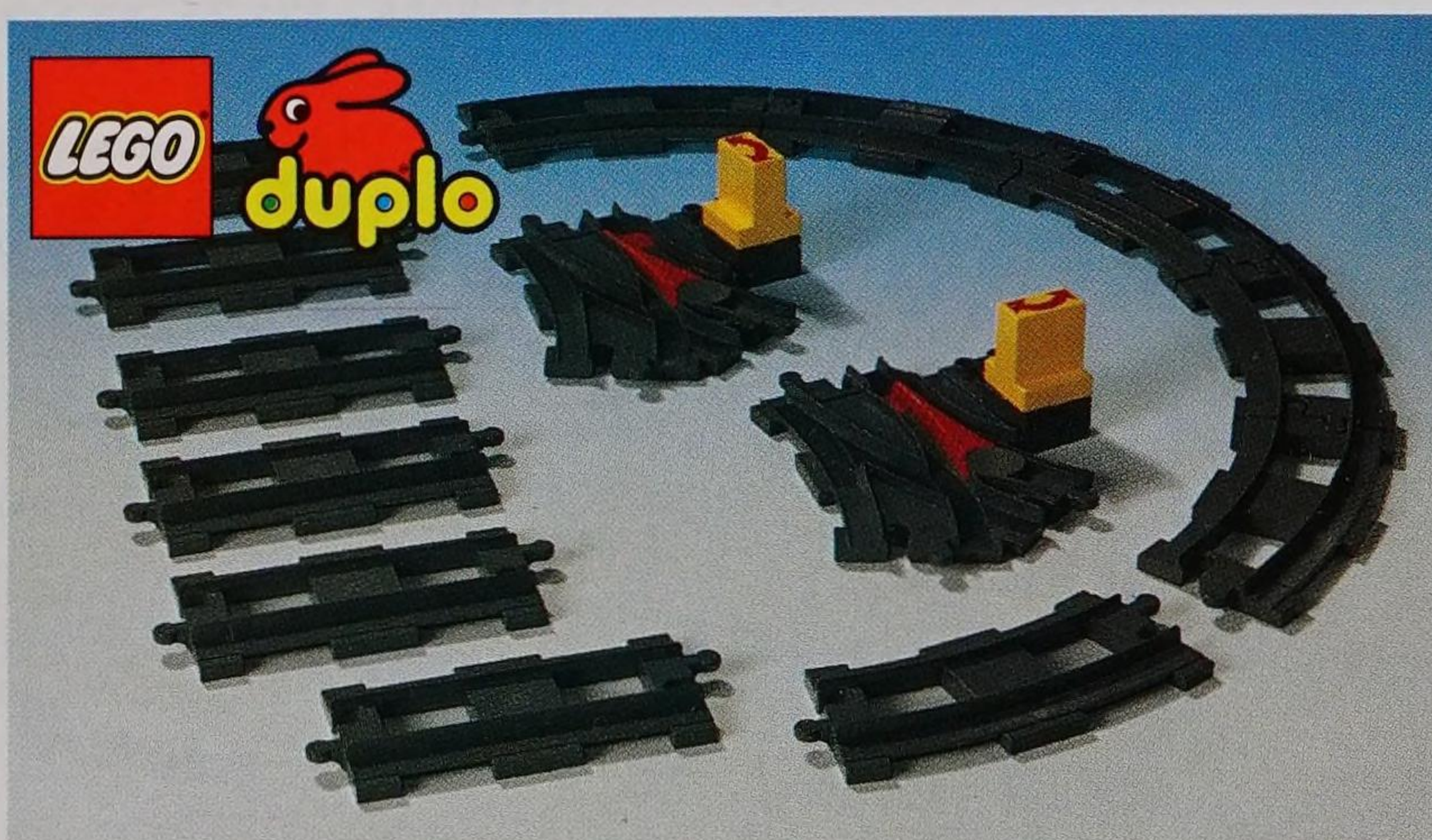


## LEGO SYSTEM COMMUNITY WORKERS #779293

178 elements

Every LEGO town needs firefighters, police officers, ambulance paramedics, and construction workers with their tools. Thirty LEGO figures and six cycles and motorbikes can be built with the elements included in this set.

**D779293—\$33.75**



## LEGO DUPLO RAILS #779146

16 elements

Sometimes you need a bit more track to make the train go where you want it to go. Includes two points, six straight rails, and six curved rails.

**D779146—\$24.25**



# 104 Parts & Resources



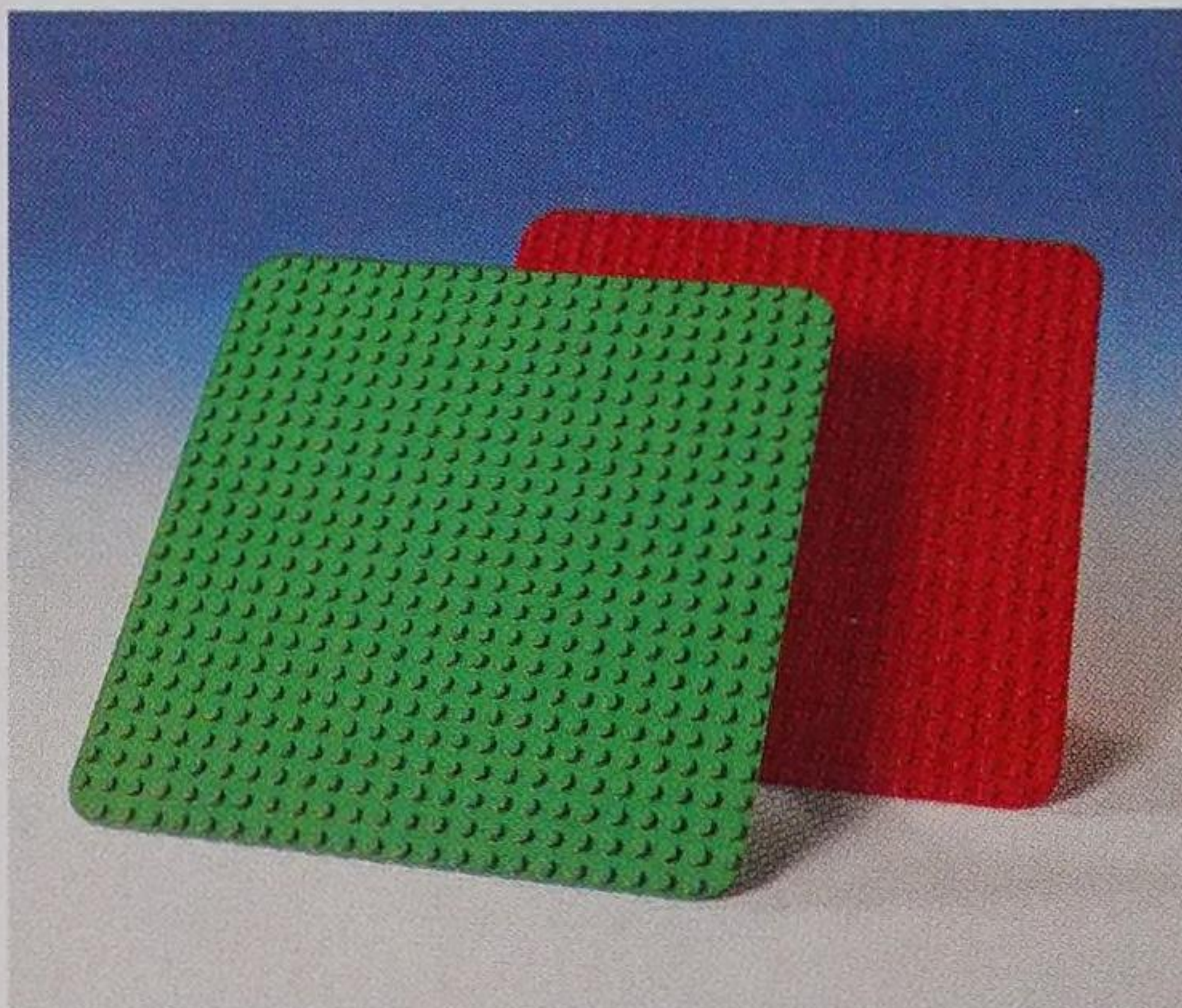
## LEGO DUPLO TOOLO VEHICLES

#779122

76 elements

Any heavy transport vehicle or any other large construction machine that lifts, turns, or bends can be built with this set: beams and wings with built-in screws, special elements for the cabs and buckets, hooks, figures, three screwdrivers, and one wrench.

D779122—\$71.50



## LEGO DUPLO BUILDING PLATES #779071

Two large 15" x 15" stud building plates provide the perfect foundation for a preschooler's creativity.

D779071—\$19.75



## LEGO DUPLO WORLD PEOPLE

#779171

24 elements

These culturally diverse figures are a must for every preschool. Includes 24 figures representing four ethnic groups and three generations.

D779171—\$42.25



## LEGO DUPLO FOUR BASEPLATES

#779536

These four white baseplates, each 12 cm x 16 cm (about 4.7 in. x 6.3 in.) in size, provide the perfect working surface for young LEGO DUPLO builders and allow the builders to save their creations for another day.

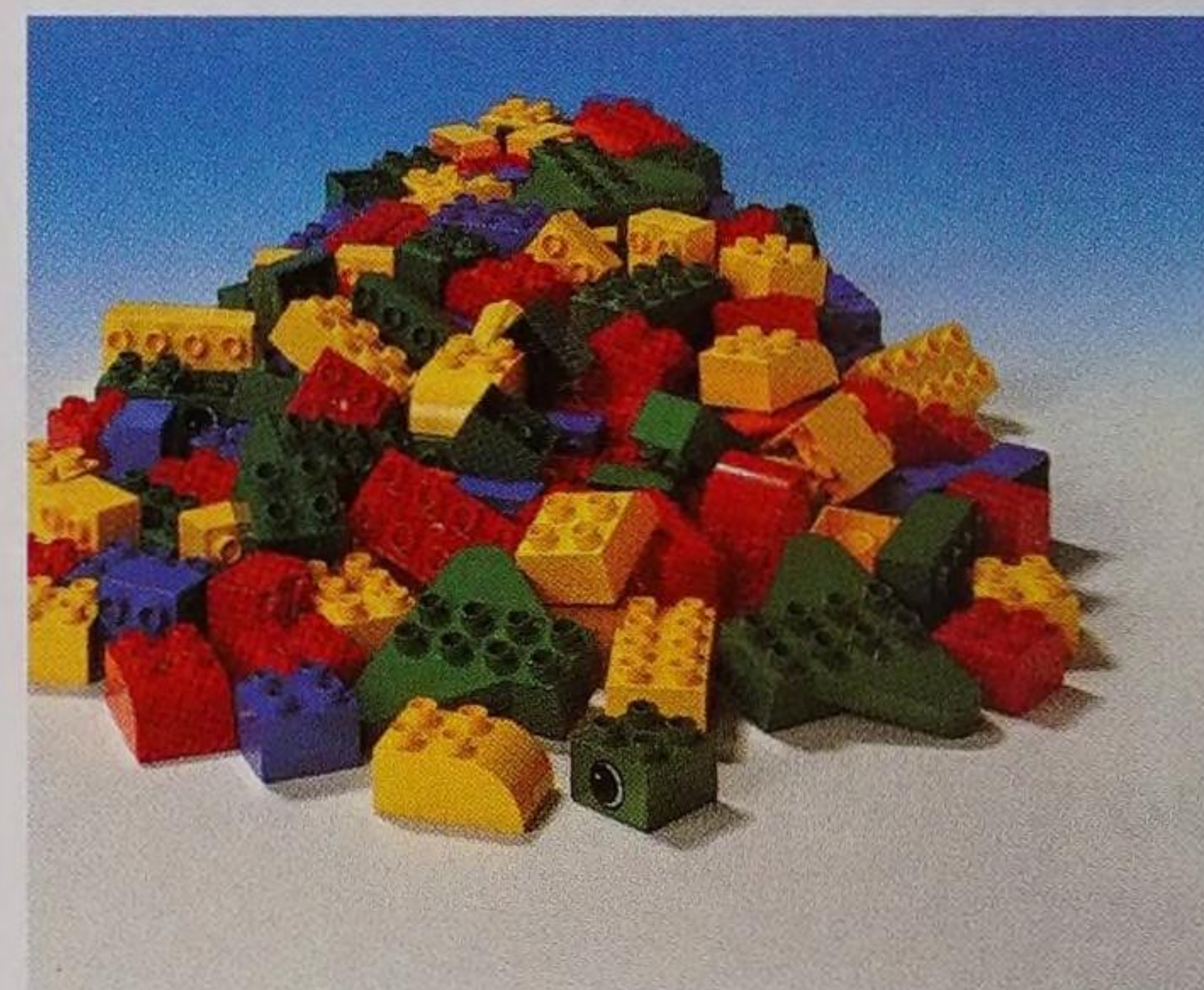
D779536—\$14.50



## LEGO ROADPLATES #779370

This set of 10 roadplates includes four curves, two crossroads, two T-junctions, and two straight roads. Each plate measures 25 cm x 25 cm (or about 10 in. x 10 in.), and is perfect for any LEGO vehicle collection. The set is especially useful for kids studying transportation or road and traffic safety or creating town or landscape environments.

D779370—\$36



## LEGO DUPLO BASIC MEDIUM BULK #779065

114 elements

These bricks in different shapes and colors can add even more building possibilities to existing LEGO DUPLO collections.

D779065—\$31.25



## LEGO DUPLO TOOLO SUPPLEMENT SET #779123

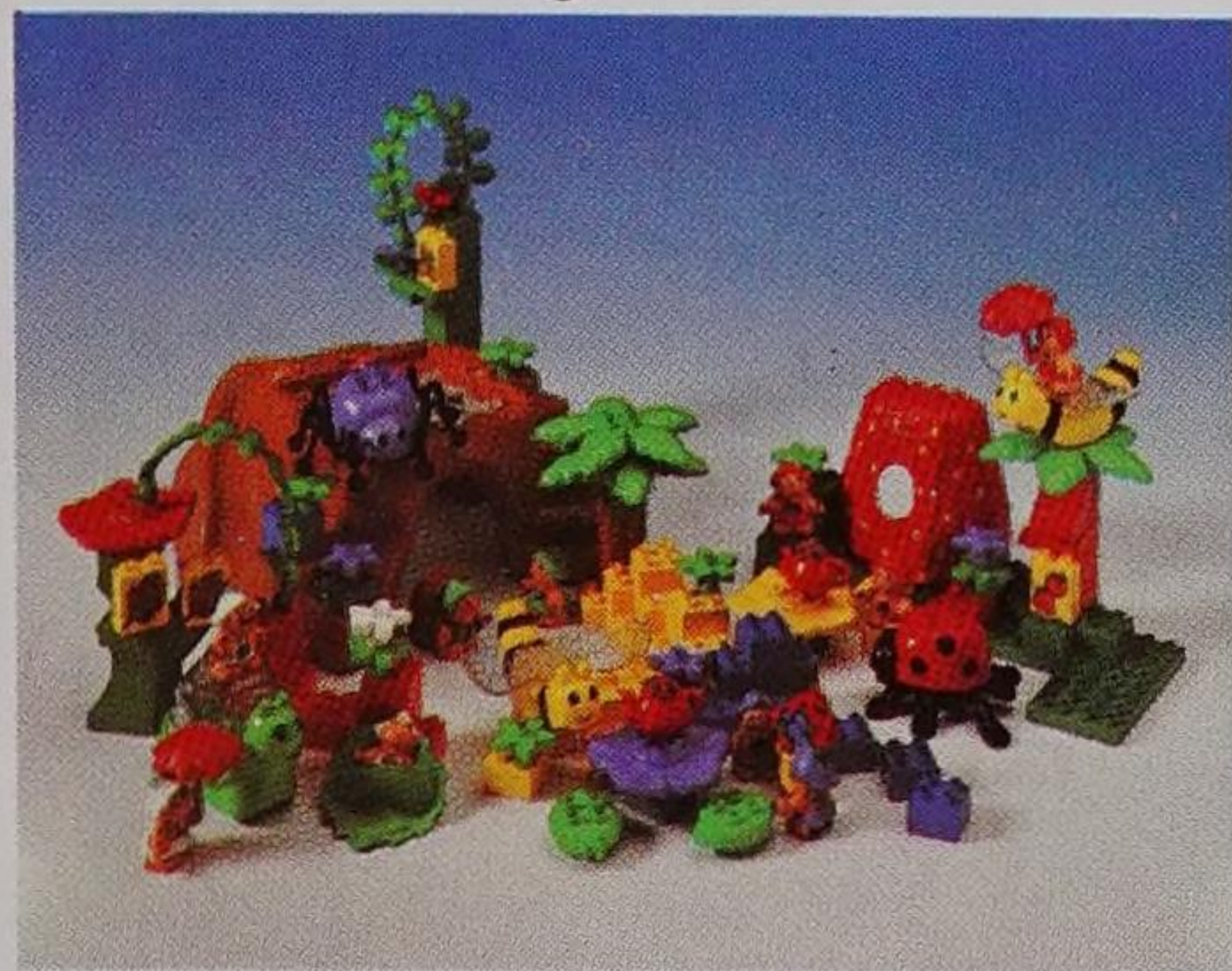
56 elements

For bigger, taller constructions, supplement with construction elements, wheels, a cockpit/excavator element, hooks, and other special elements.

D779123—\$55

**Call Toll Free!**  
**800-362-4308**

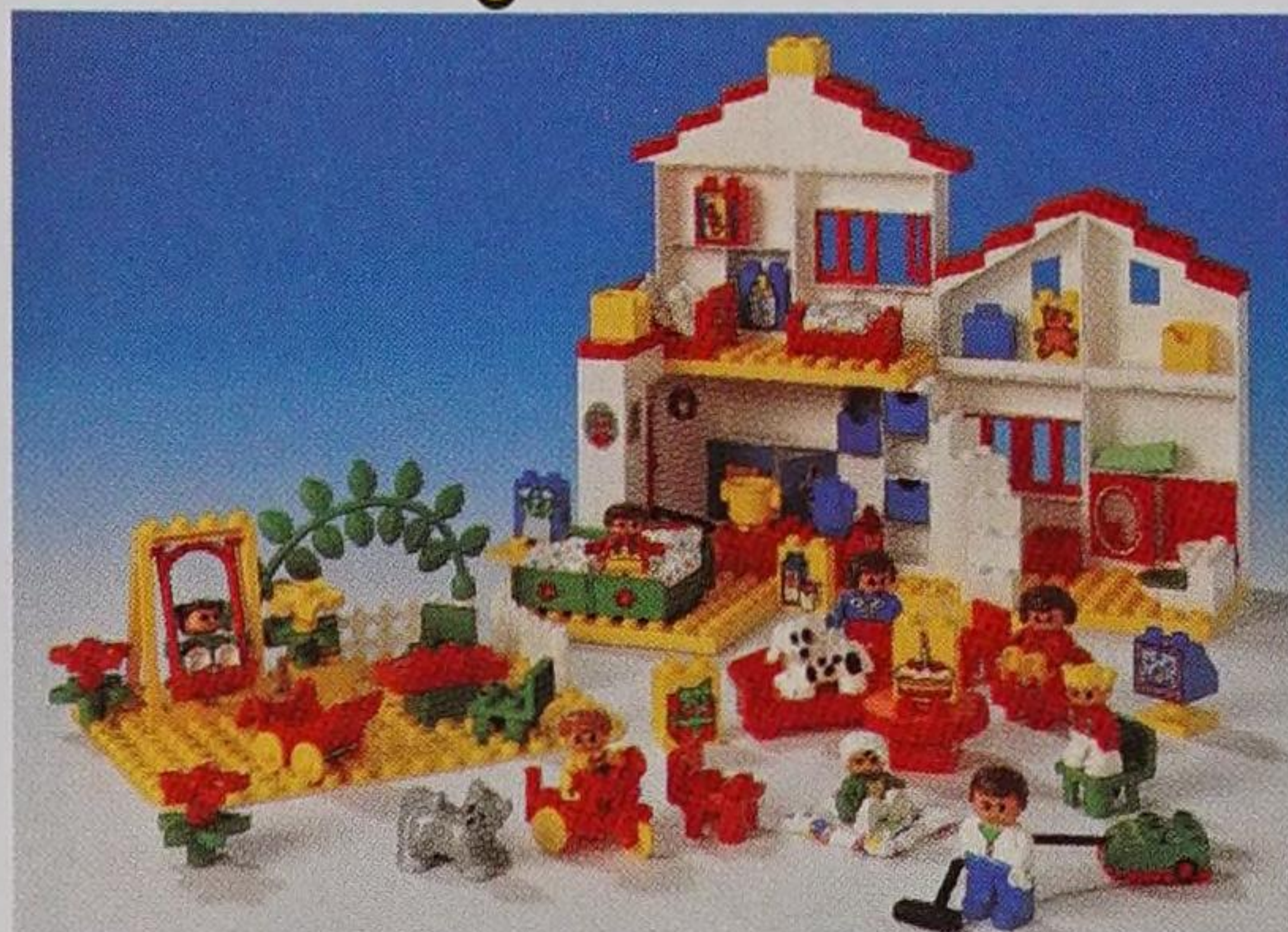




### LEGO DUPLO LITTLE FOREST FRIENDS #779129

This charming set includes four families (the Meadowsweets, the Strawberries, the Toadstools, and the Bluebells), each with their own characteristics, living and having adventures in the forest. The 129-piece set also contains pieces to form a forest environment and forest animals including a bee, a spider, a snail, and a ladybug. Four story booklets, one about each family, are also included.

**D779129—\$93.75**

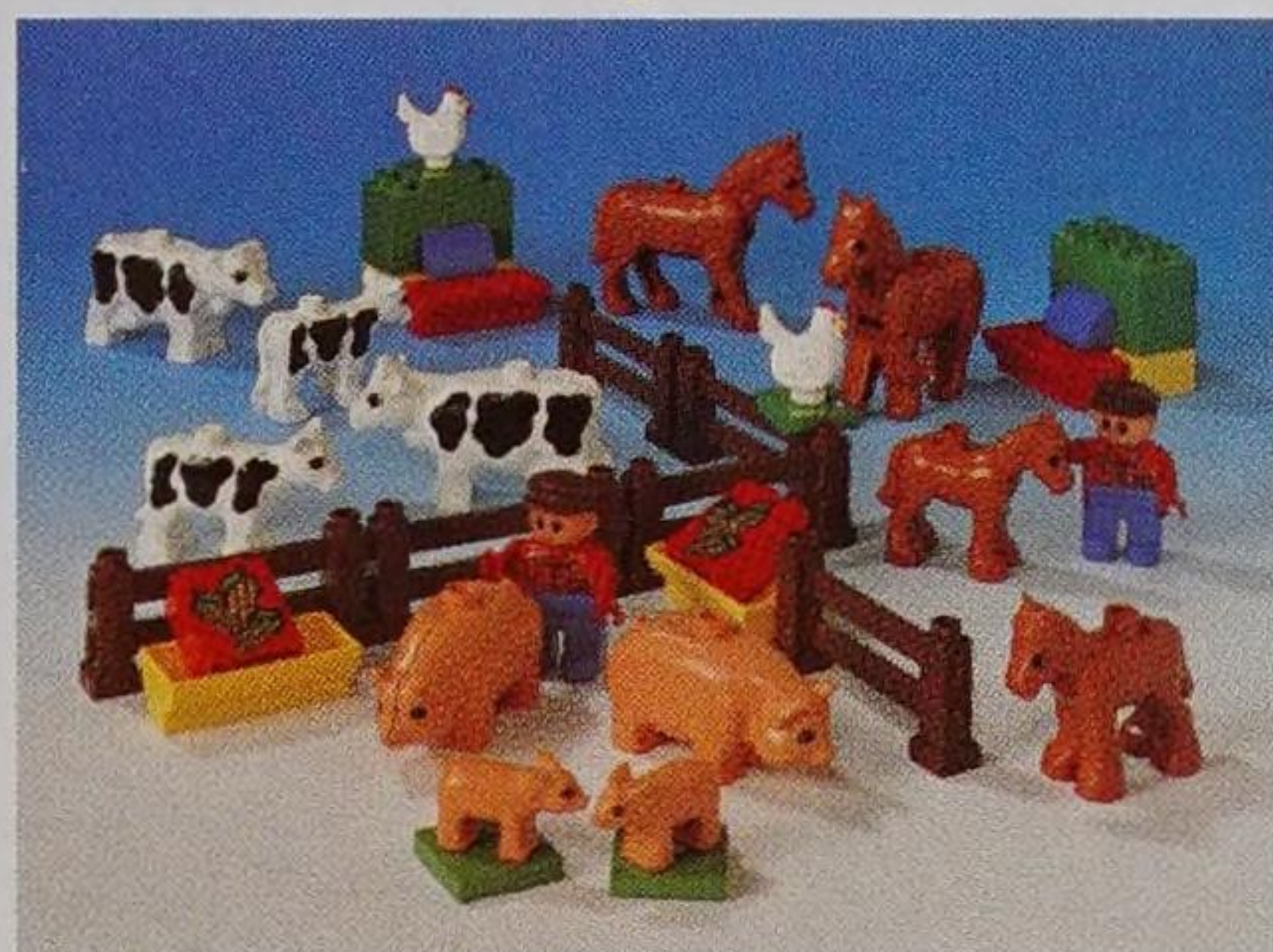


### LEGO DUPLO HOME #779148

107 elements

Home for sale. Prime features: open floor plan with movable walls, completely furnished! Includes eight family members, a vacuum, a dog, a cat, a baby swing and stroller, a tricycle, and a doorbell that really rings.

**D779148—\$88**



### LEGO DUPLO FARM ANIMALS #779137

36 elements

Includes 14 animals, farmers, snap-together fencing, and a feeding trough that make this set a great addition to any collection.

**D779137—\$31.25**

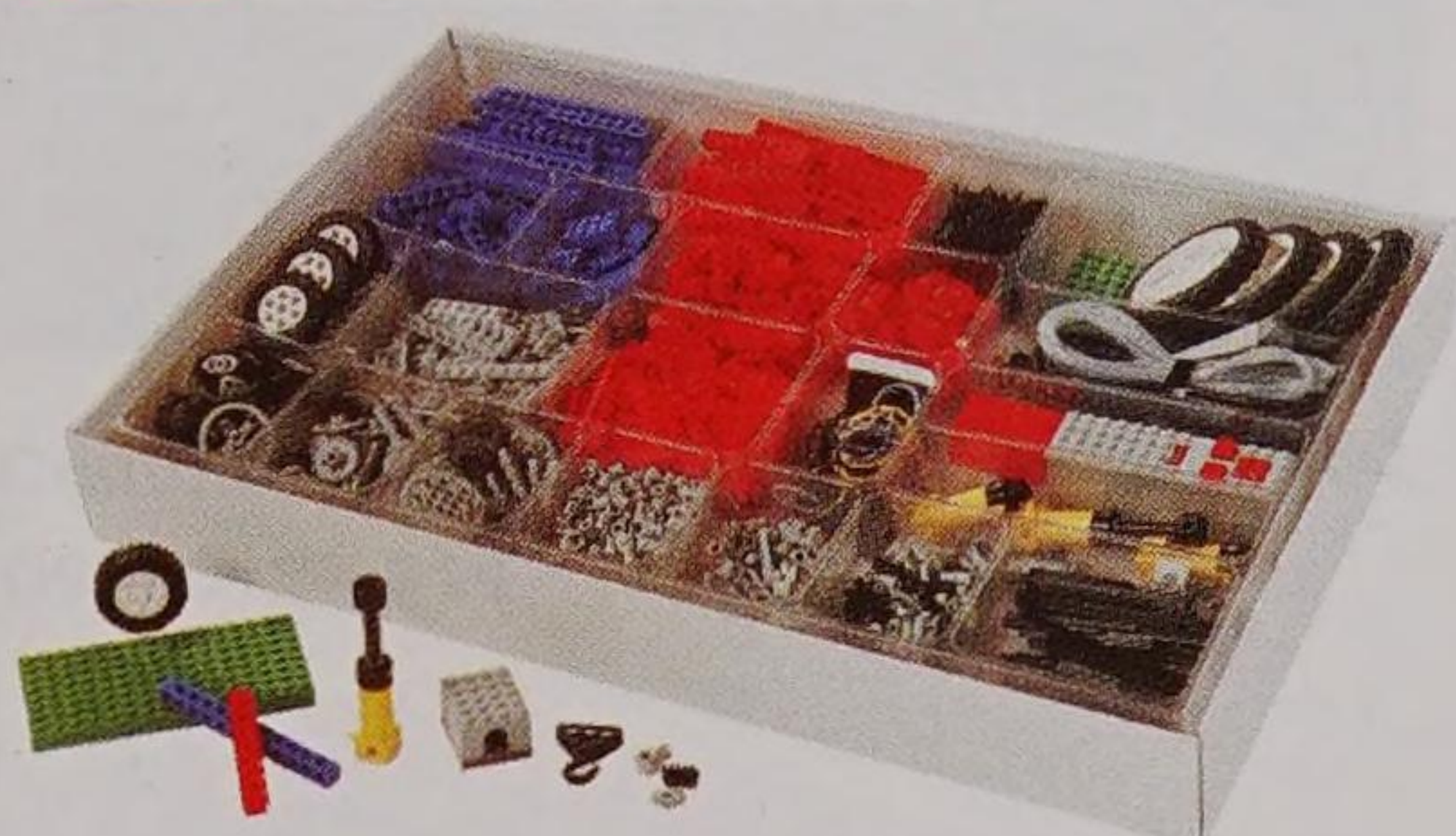


### LEGO DUPLO TOOLO EXTRA TOOLS

It's handy to have extra tools with your LEGO DUPLO TOOLO sets.

**D775098 TOOLO Screwdriver—\$2.75**

**D775087 TOOLO Wrench—\$2.75**



### TECHNOLOGY RESOURCE SET #979609

1,733 elements

This set is an excellent resource set for special LEGO projects small and large. It's perfect for teachers who want to create their own open-ended design challenges! Students can design and invent solutions to solve problems using this set. It includes a 9-volt motor and battery box, cam wheels, axle extenders, crane hook, wheels, rack and pinion gears, and much more. The *Technology Resource Set* is compatible with all other LEGO Technic materials.

**D979609—\$230.50**

## Parts & Resources 105



### DUPLO BASIC BULK #779815

92 elements

Just imagine what your students could build with this big DUPLO set! Elements include: 71 DUPLO bricks (2x2/2x4), two building plates, two wagons, and 17 assorted special elements.

**D779815—\$26.75**



### LEGO DUPLO ZOO ANIMALS #779192

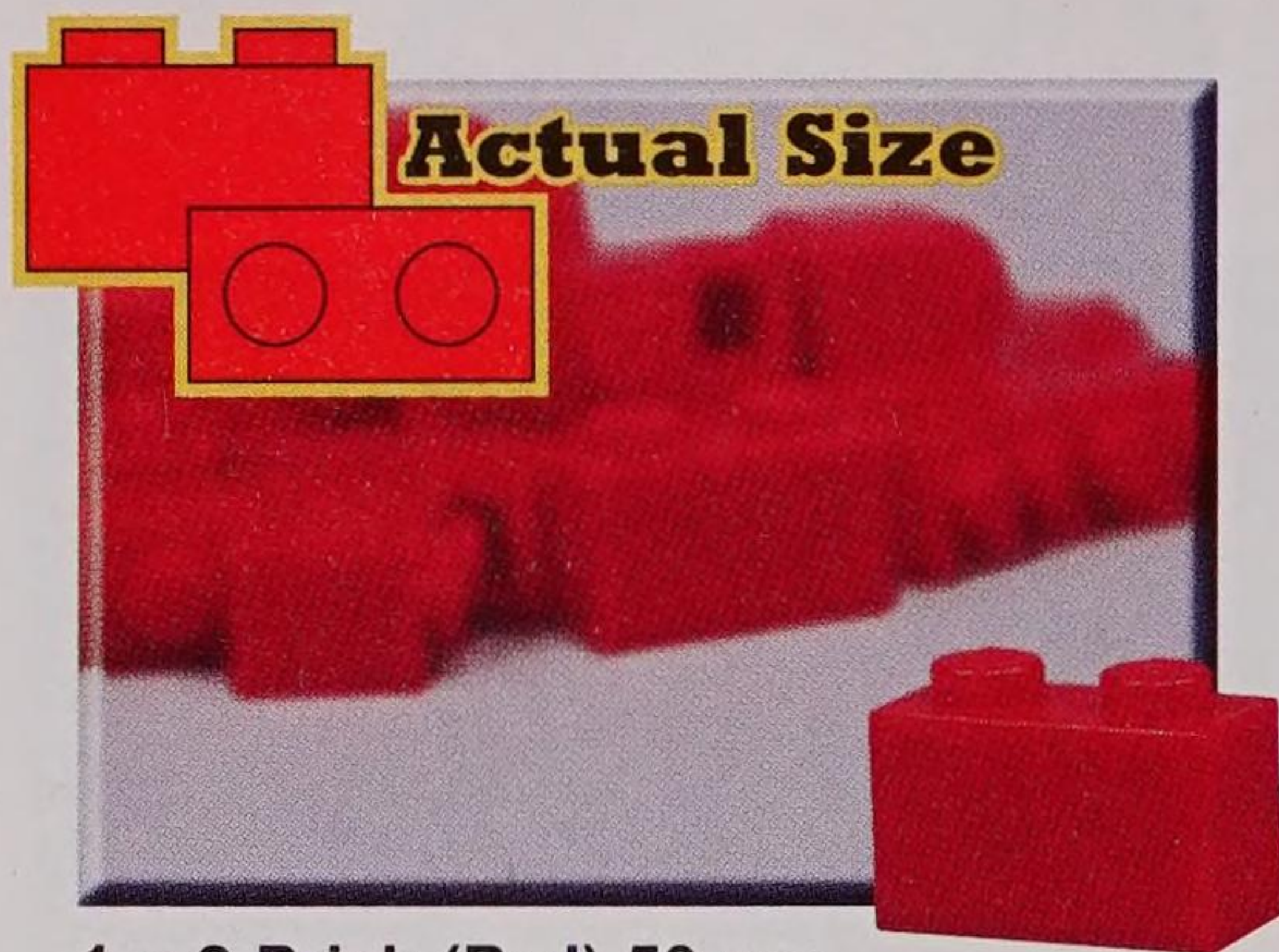
16 elements

Your children will make fast friends with these 16 baby animals, including penguins, giraffes, elephants, hippos, whales, lion cubs, a panther cub, a polar bear, and a panda.

**D779192—\$26.25**



# 106 Parts



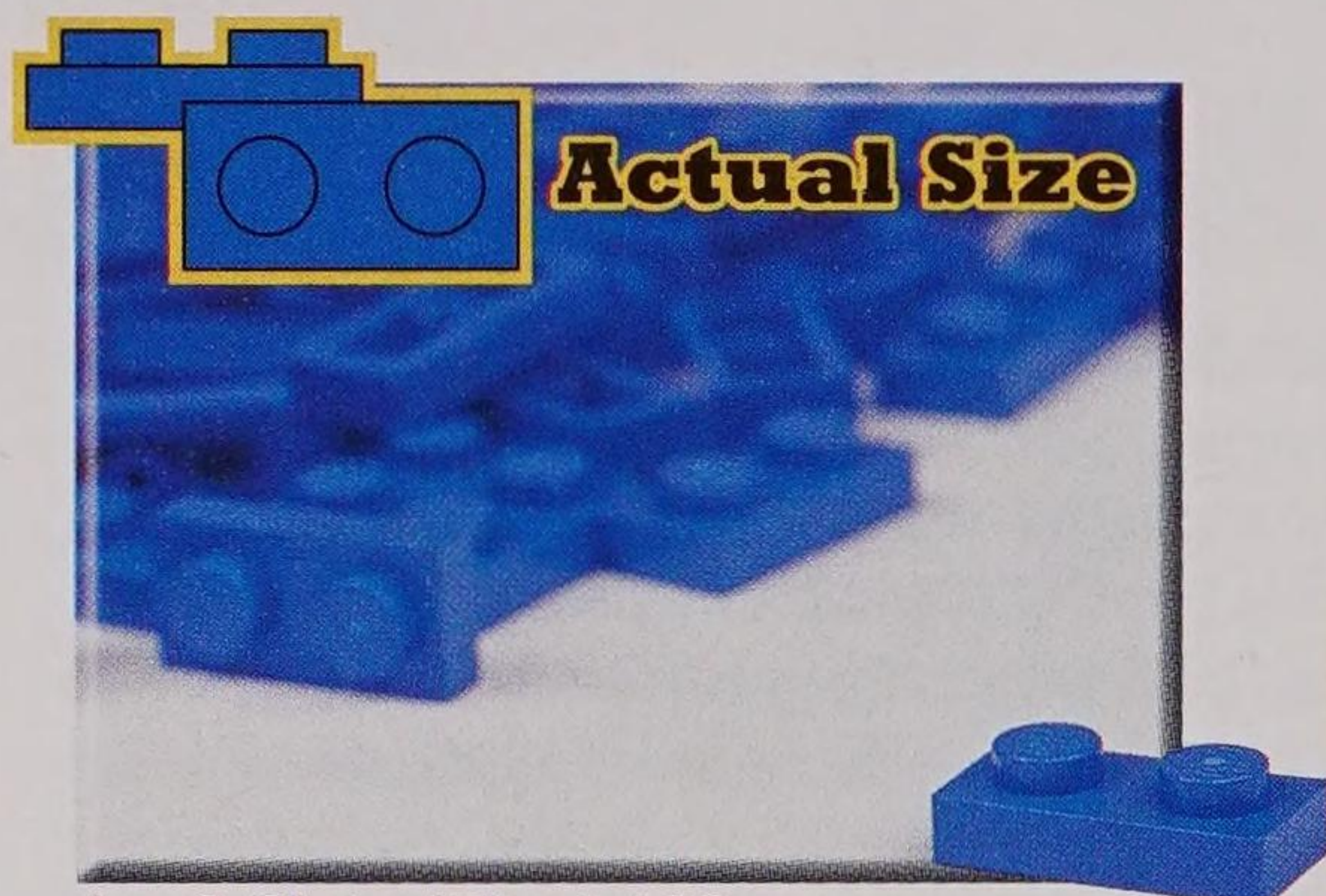
1 x 2 Brick (Red) 50 pcs  
D970008—\$10



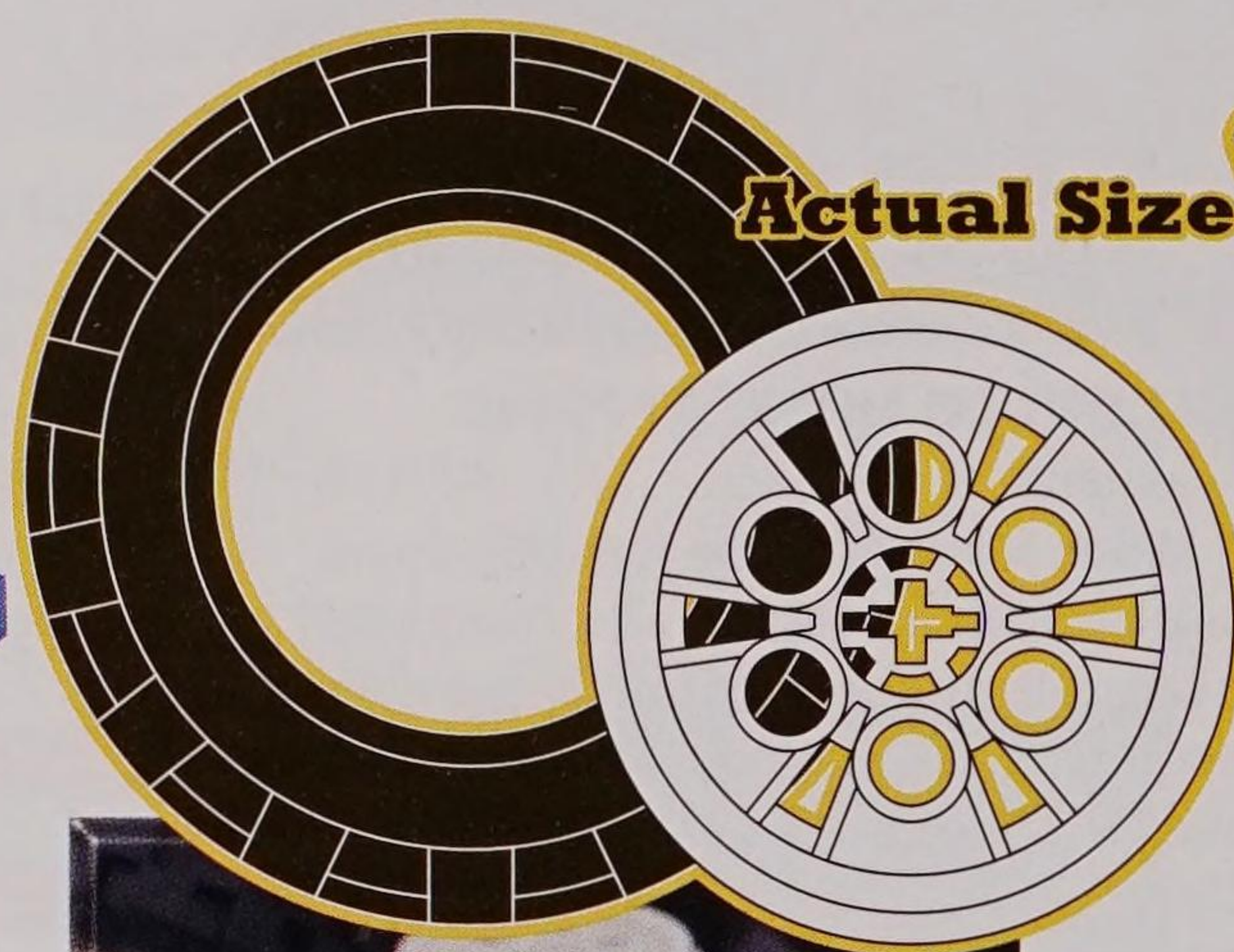
1 x 2 Beam (Red) 50 pcs  
D970013—\$10



6-Stud Axle (Black) 75 pcs  
D970015—\$10



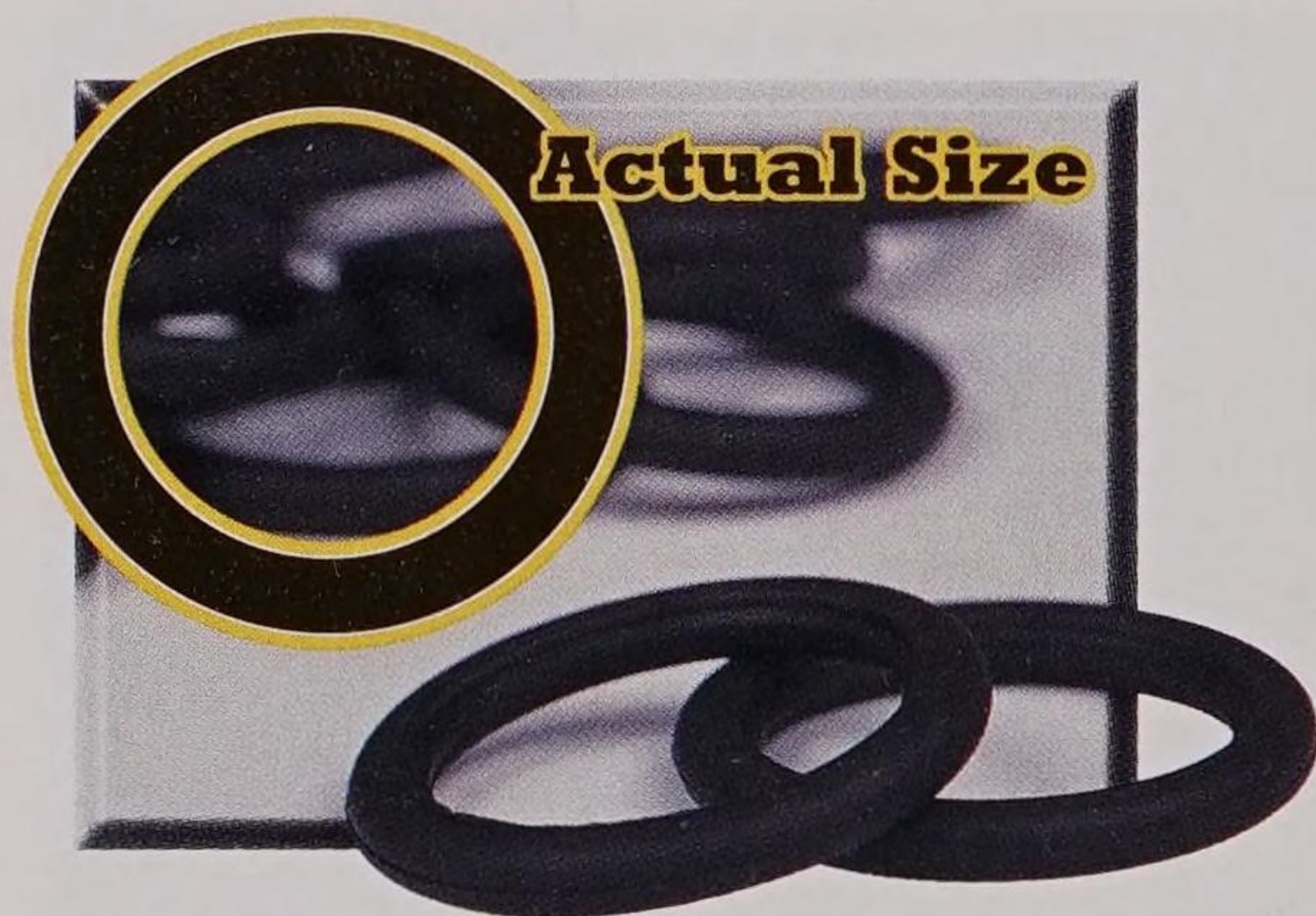
1 x 2 Plate (Blue) 100 pcs  
D970009—\$10



Red Rover Tire & Hub  
4 pcs of each  
D970021—\$10



4-Stud Axle (Black) 100 pcs  
D970014—\$10



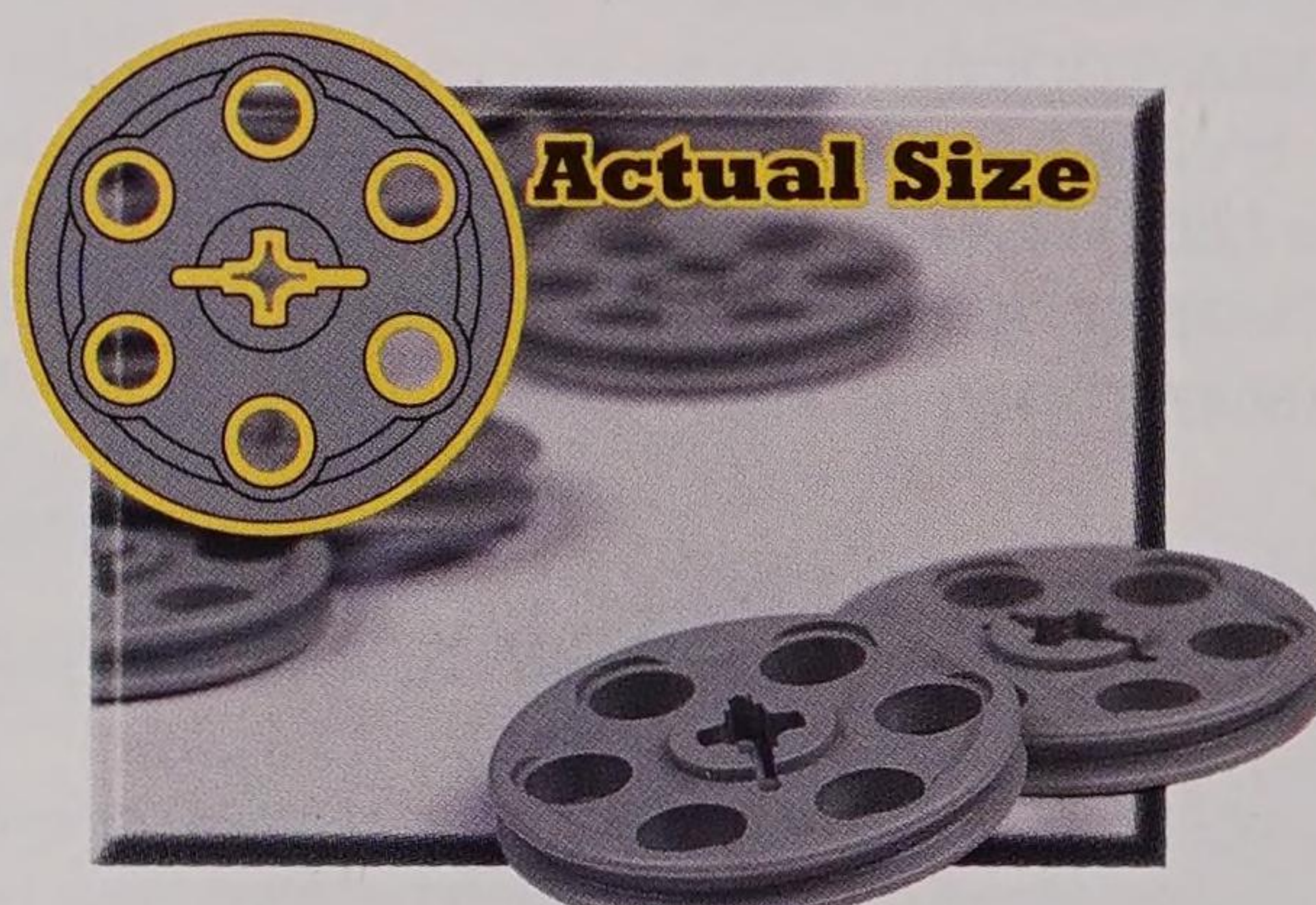
O-Ring (Black) 50 pcs  
D970007—\$10



3-Stud Axle (Black) 100 pcs  
D970019—\$10



Hub (Gray) 50 pcs  
D970010—\$10



Pulley Wheel (Gray) 50 pcs  
D970018—\$10



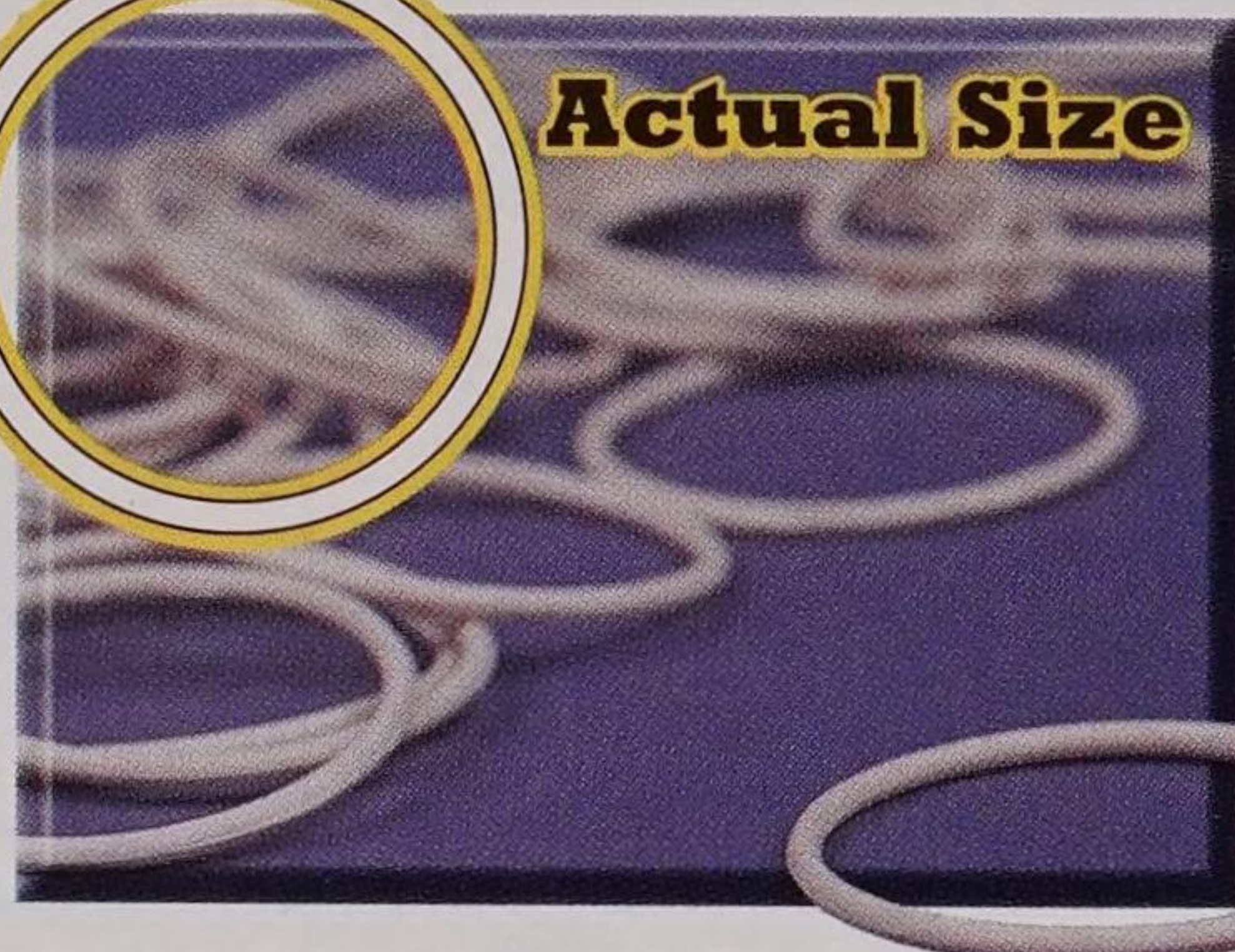
Bushing (Gray) 100 pcs  
D970016—\$10

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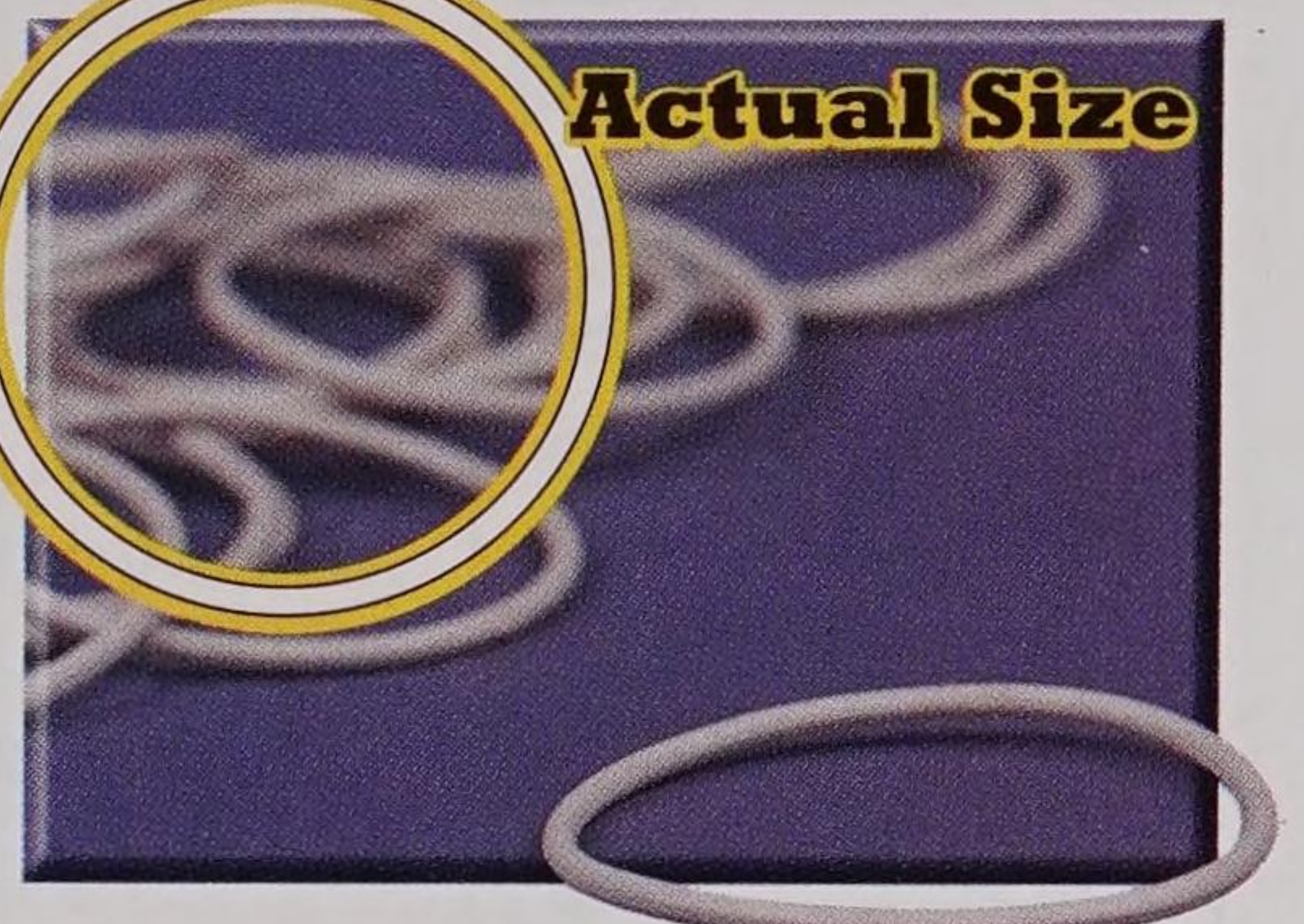




Small Pulley (Gray) 100 pcs  
D970020—\$10



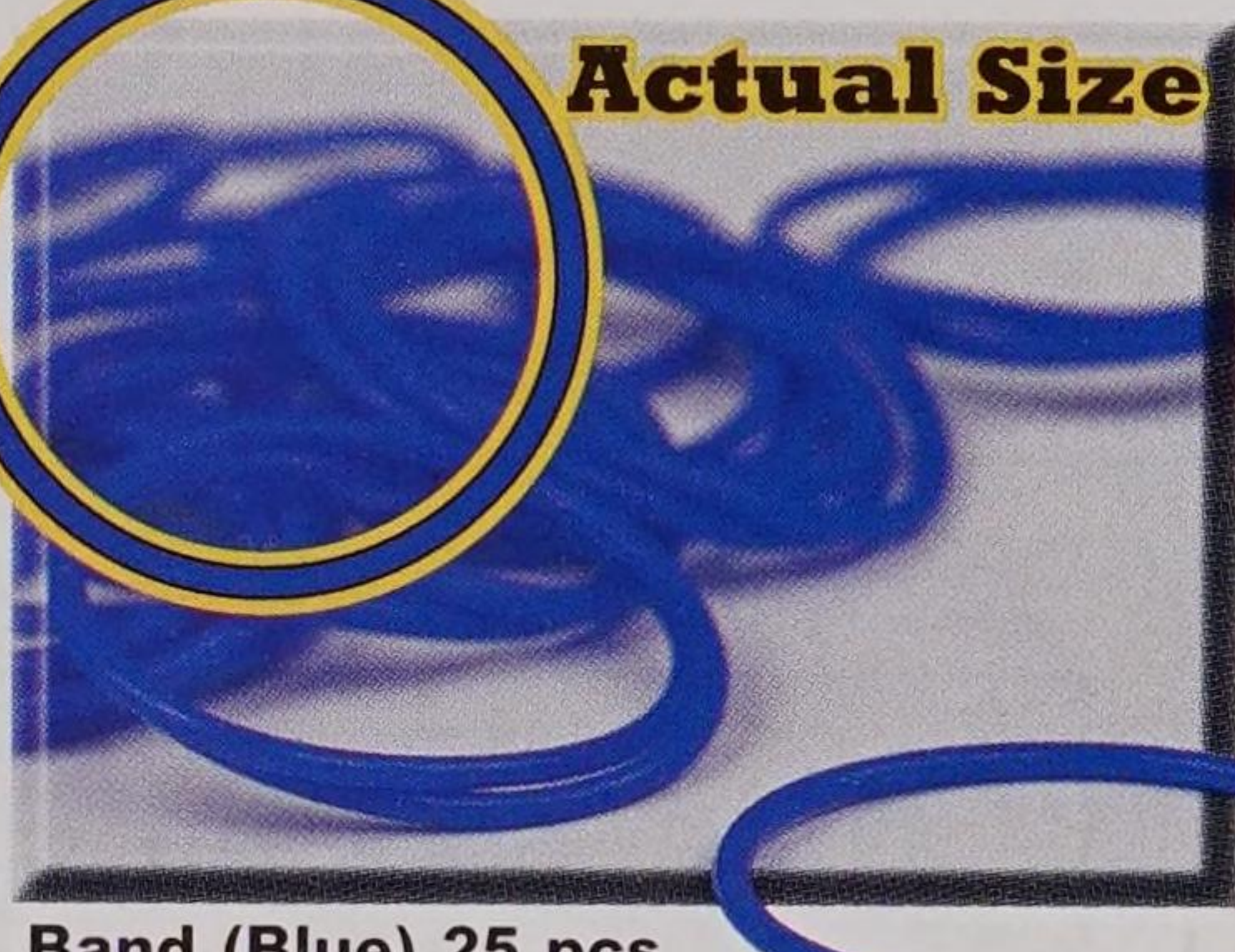
Small Band (White) 25 pcs  
D970001—\$10



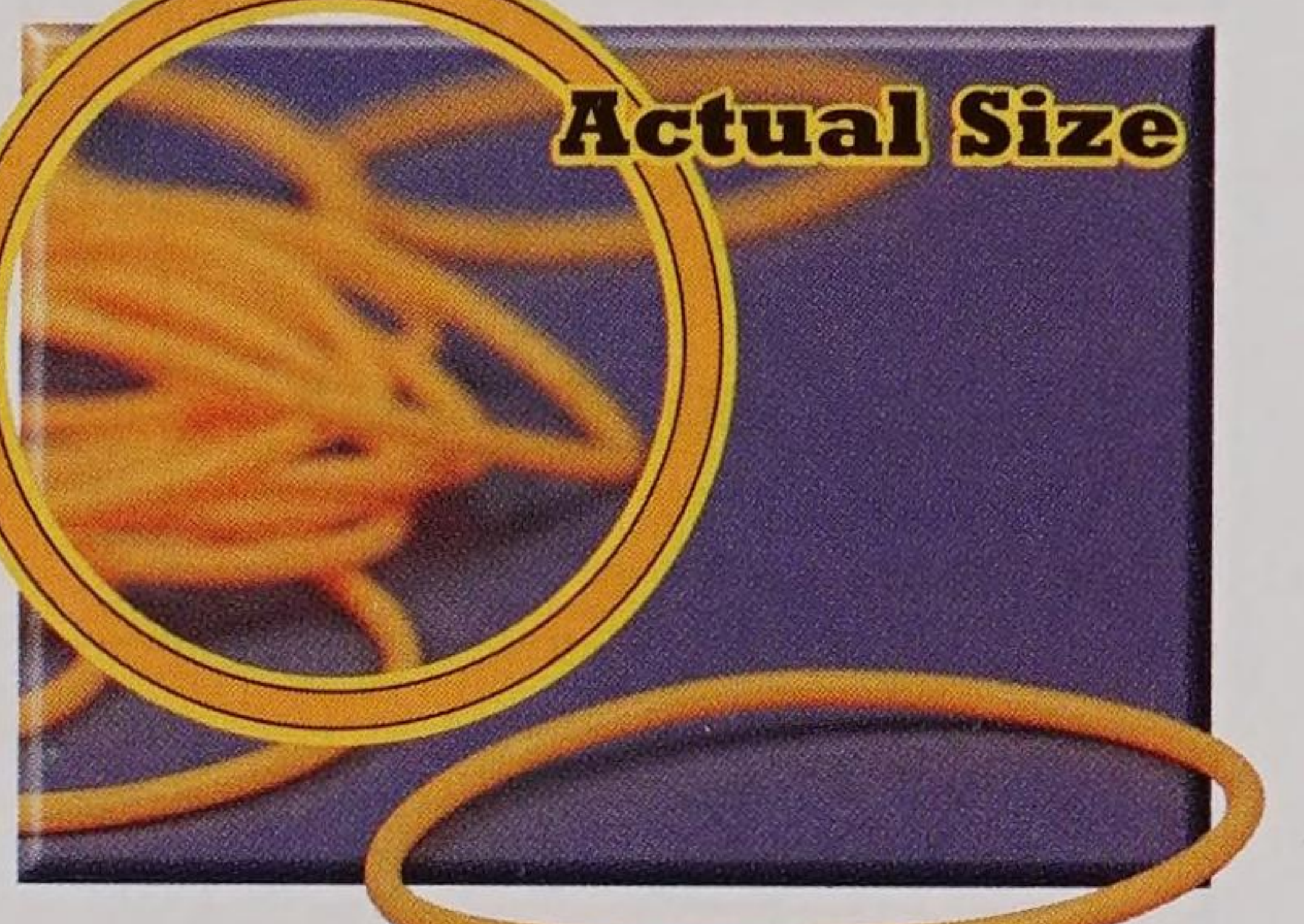
Large Band (White) 25 pcs  
D970002—\$10



8-Tooth Spur Gear (Gray) 100 pcs  
D970011—\$10



Band (Blue) 25 pcs  
D970003—\$10



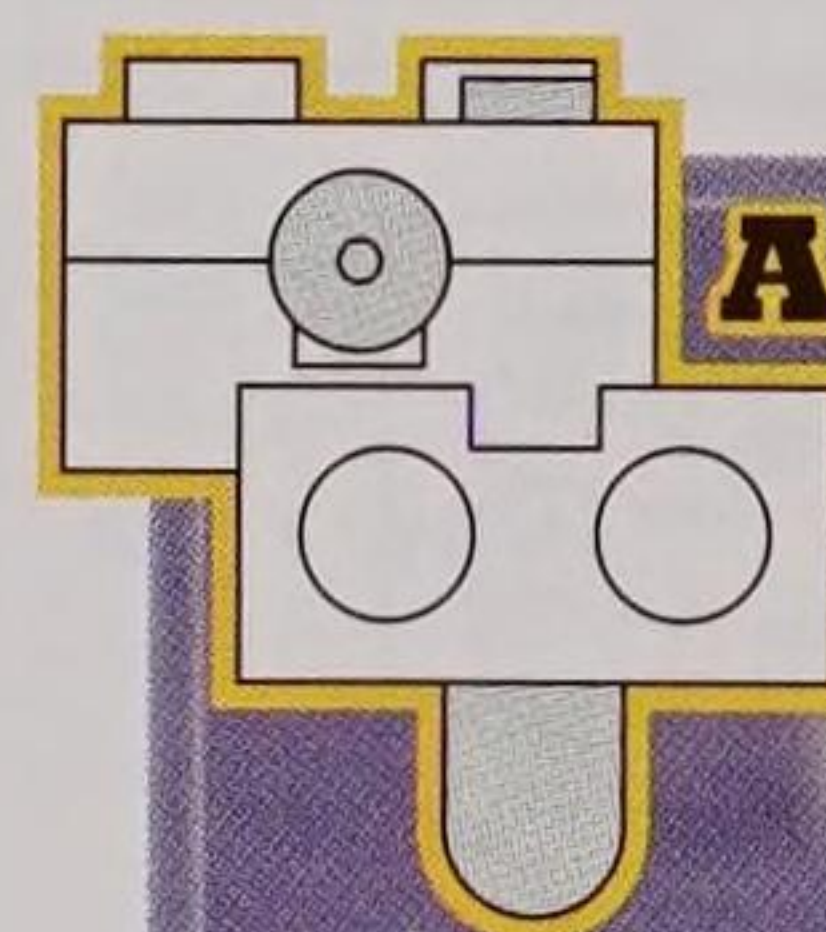
Band (Yellow) 25 pcs  
D970004—\$10



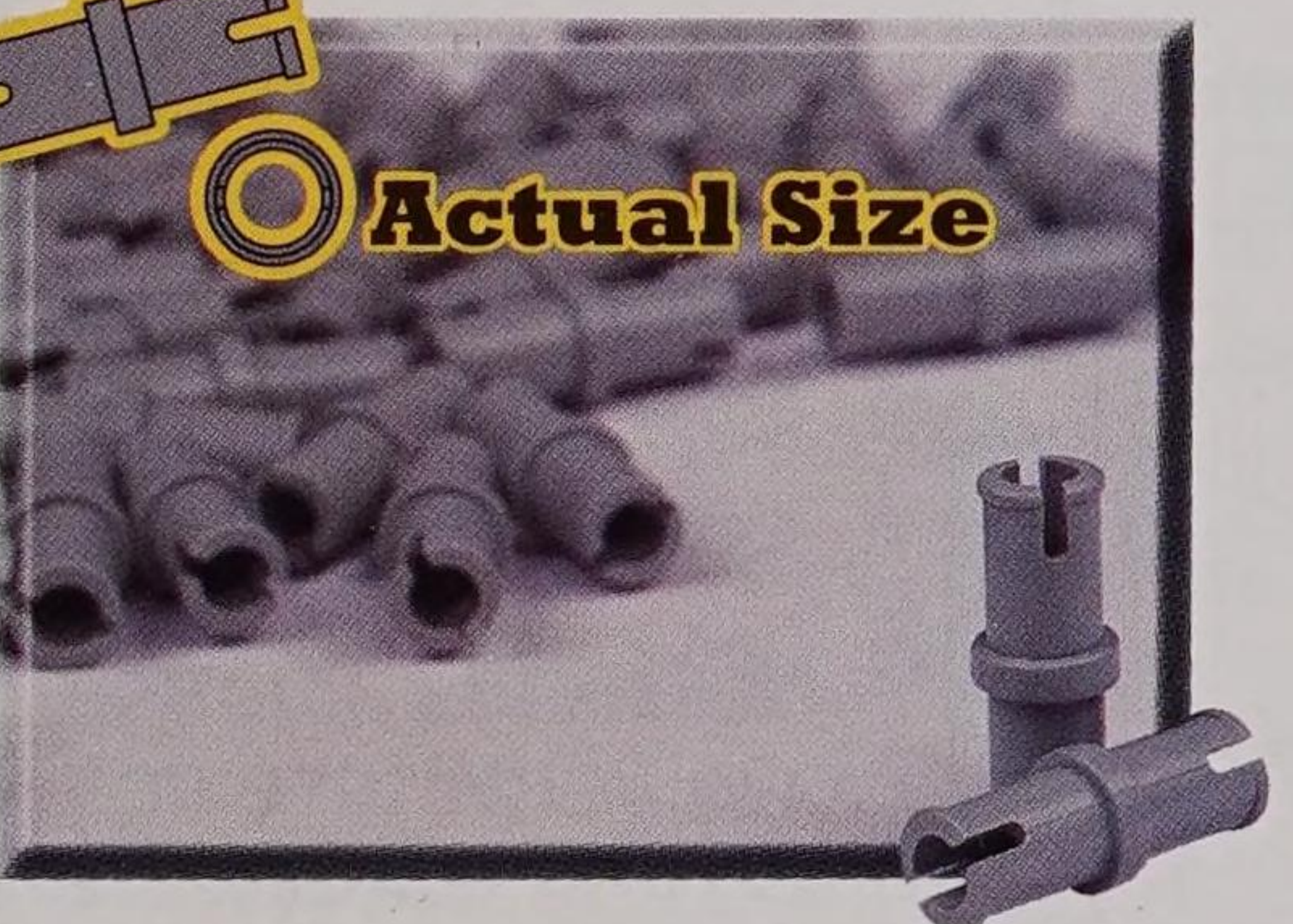
14-Tooth Beveled Gear (Gray) 100 pcs  
D970017—\$10



Friction Connector Peg (Black) 100 pcs  
D970006—\$10



1 x 2 Lamp Brick 9V (White) 2 pcs.  
D970005—\$10



Connector Peg (Gray) 100 pcs  
D970012—\$10



Connector Peg 1-1/2" (Dark Gray)  
100 pcs  
D970022—\$10



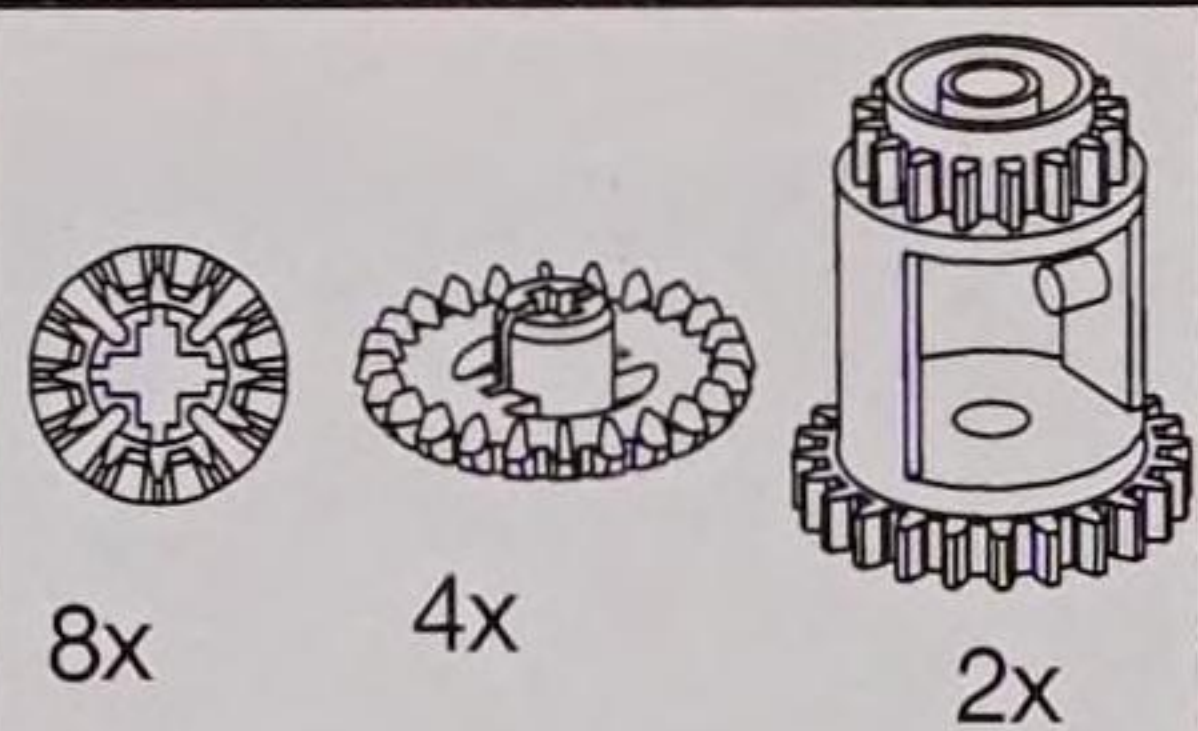
**LEGO SYSTEM WHEELS #779269**  
288 elements

Nothing but wheels – just what children want. This complete set includes tires in two different sizes, axles, and wheel hubs to make 72 sets of wheels.

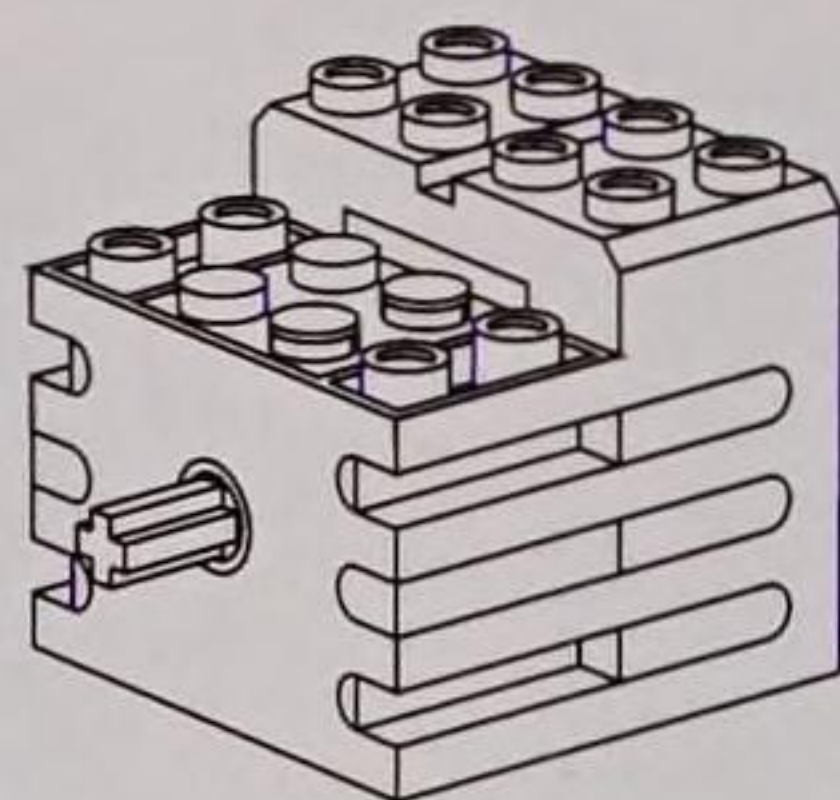
**D779269—\$32.25**



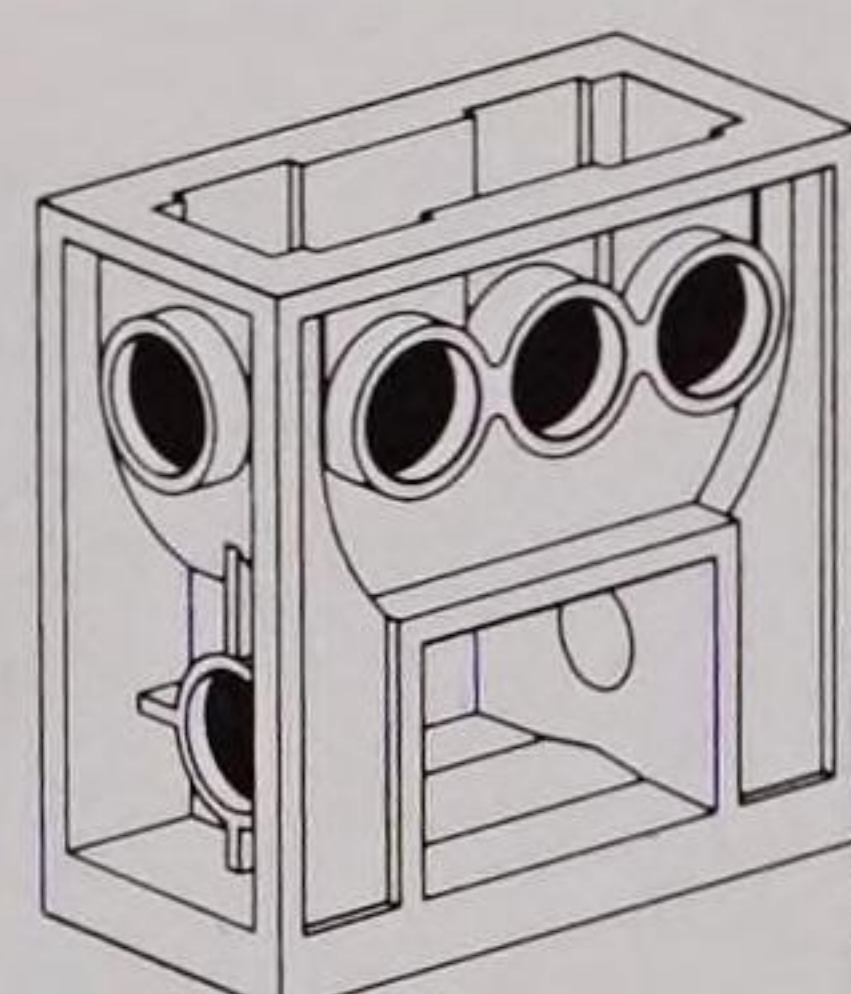
# 108 Parts



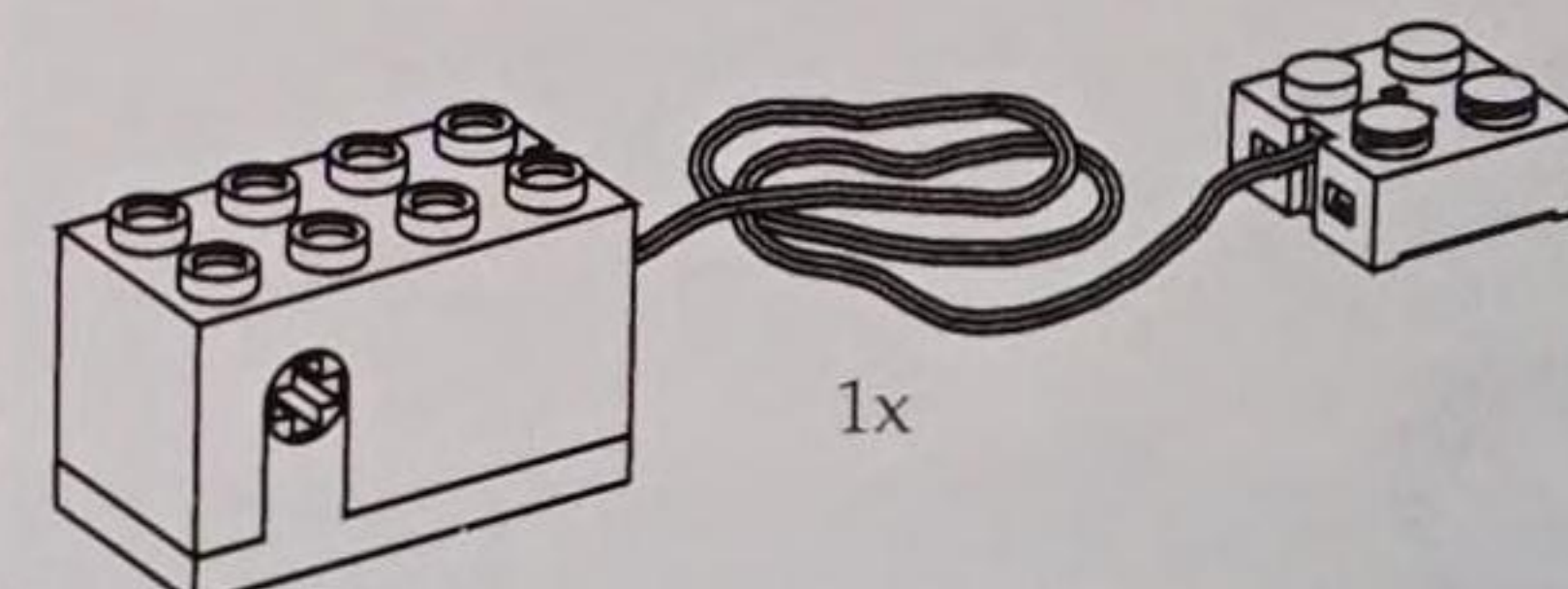
8x 4x 2x  
**DIFFERENTIALS**  
D779945—\$5.50



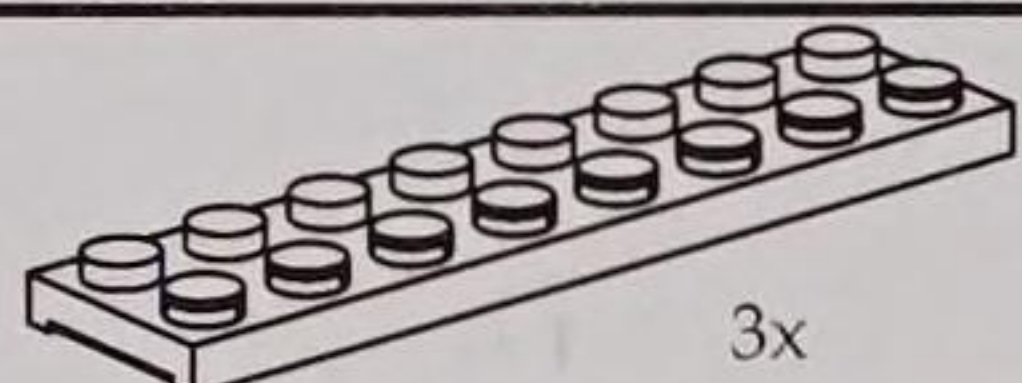
1x  
**9-VOLT MOTOR WITH GEAR REDUCTION**  
D775225—\$16.25



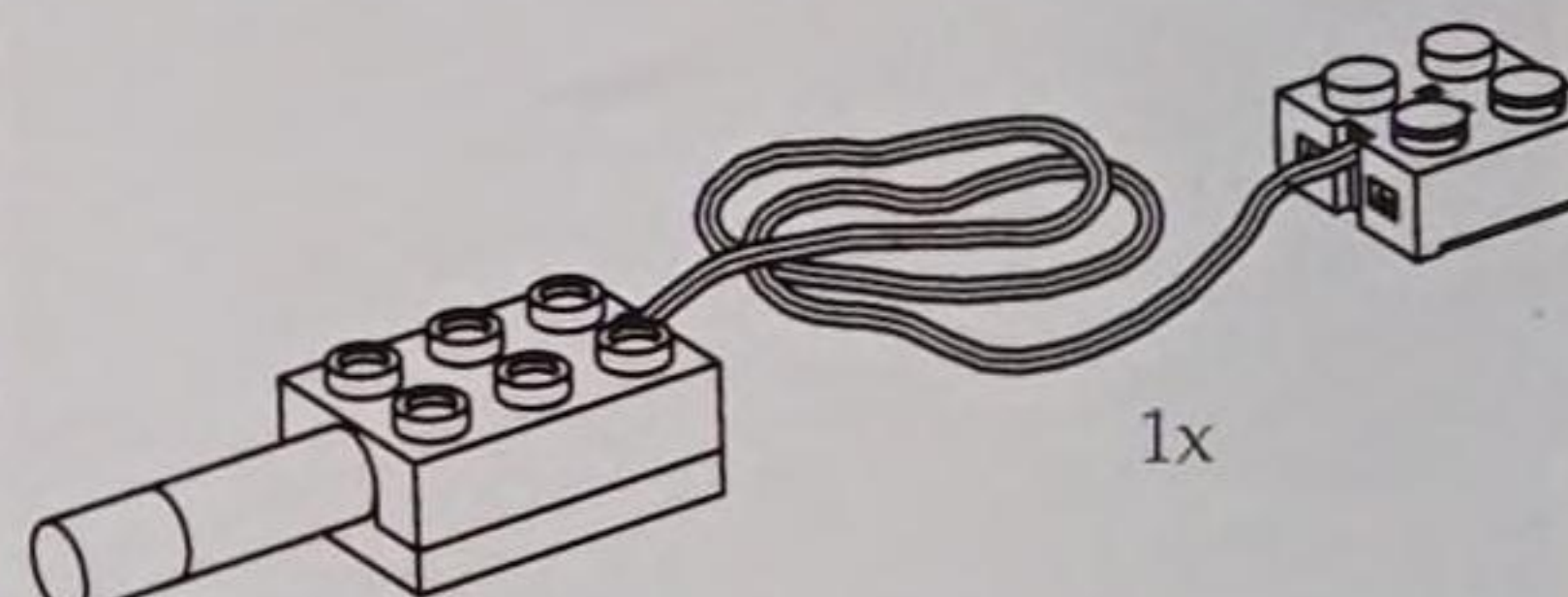
1x  
**YELLOW GEAR BLOCK**  
D779918—\$2.75



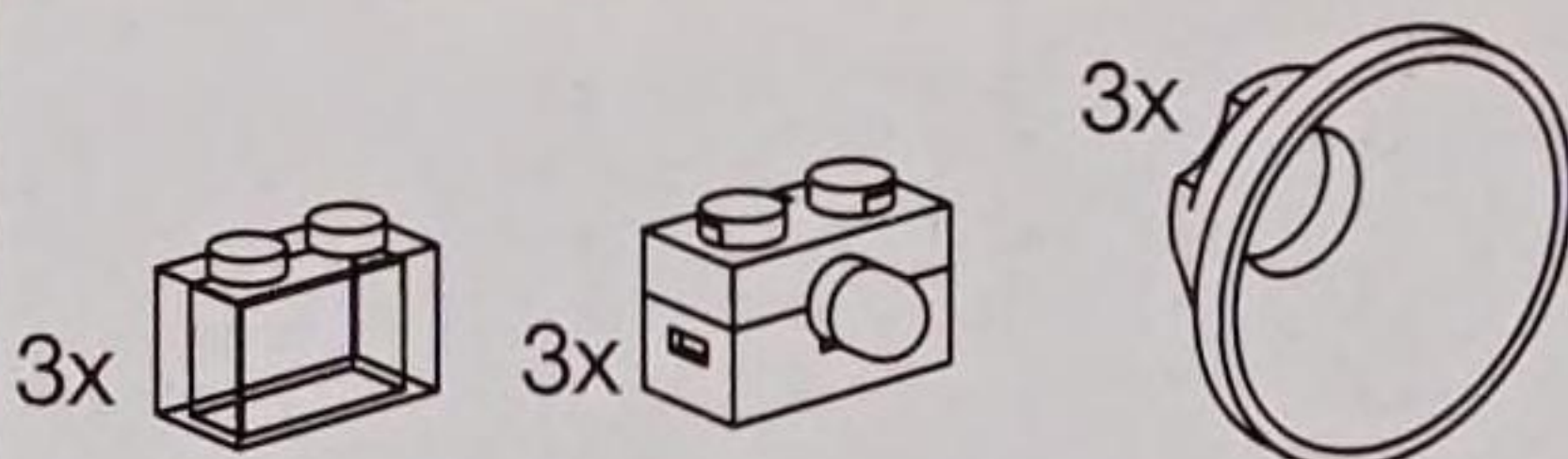
1x  
**9-VOLT ROTATION SENSOR**  
D779756—\$16.50



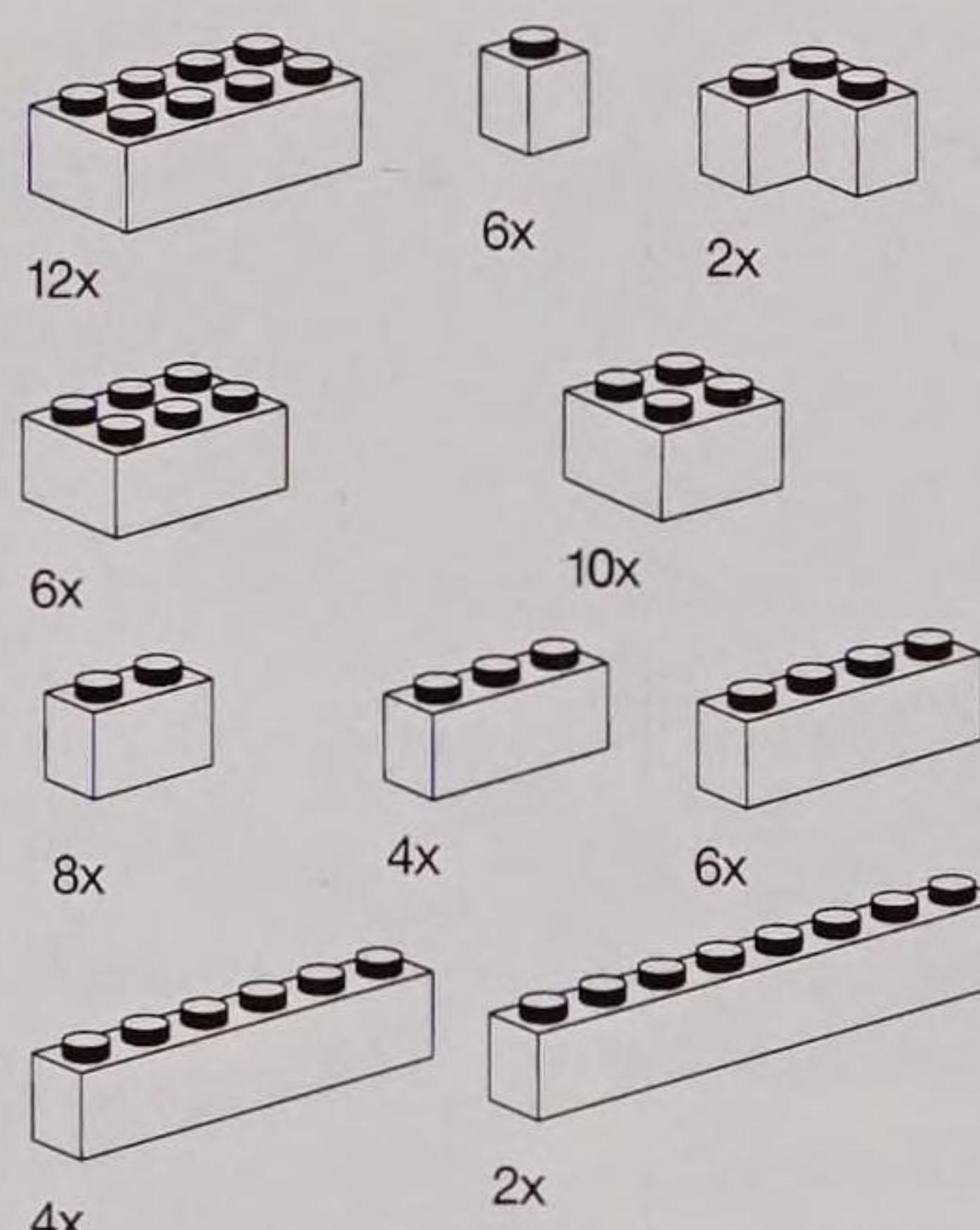
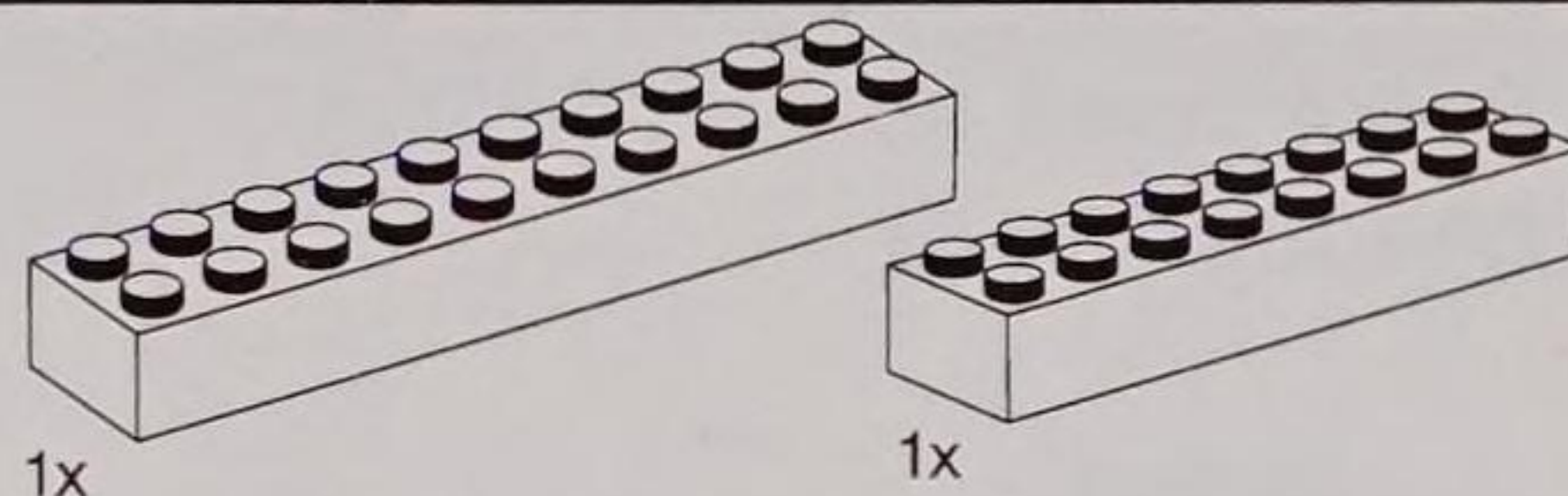
3x  
**ELECTRIC PLATES**  
D779886—\$6



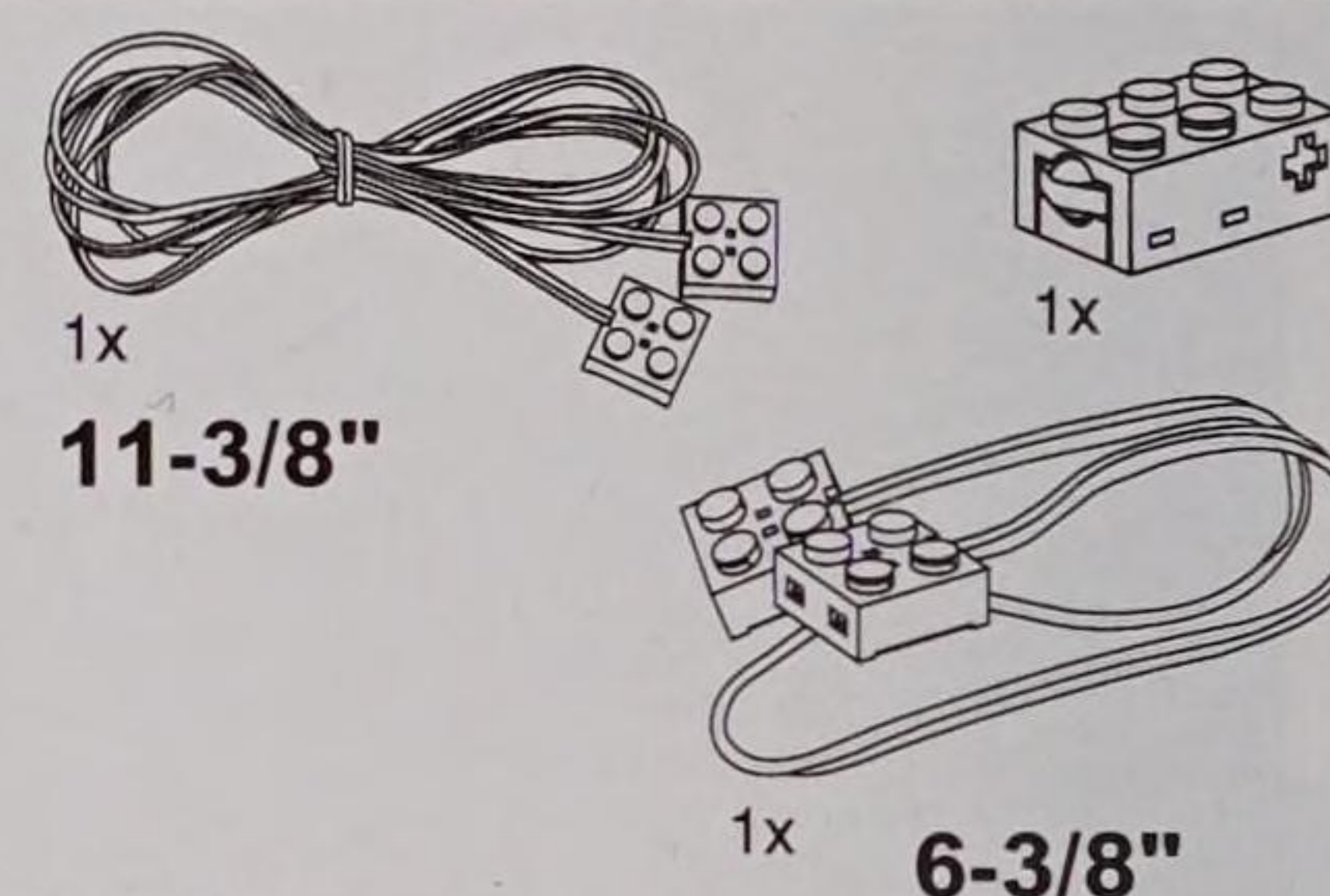
1x  
**9-VOLT TEMPERATURE SENSOR**  
D779755—\$27.50



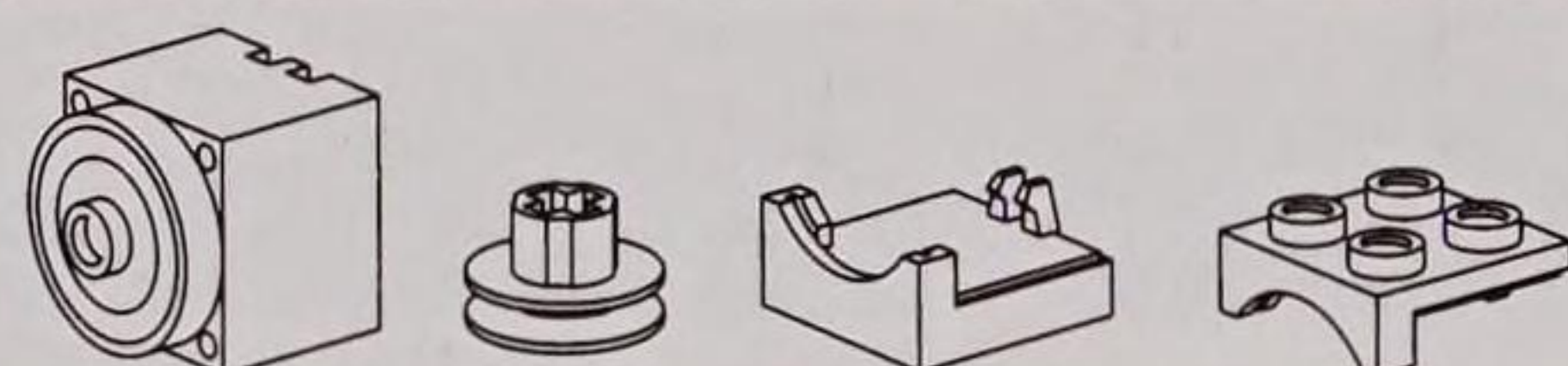
3x 3x 3x  
**LAMPS AND FITTINGS**  
D779848—\$24.50



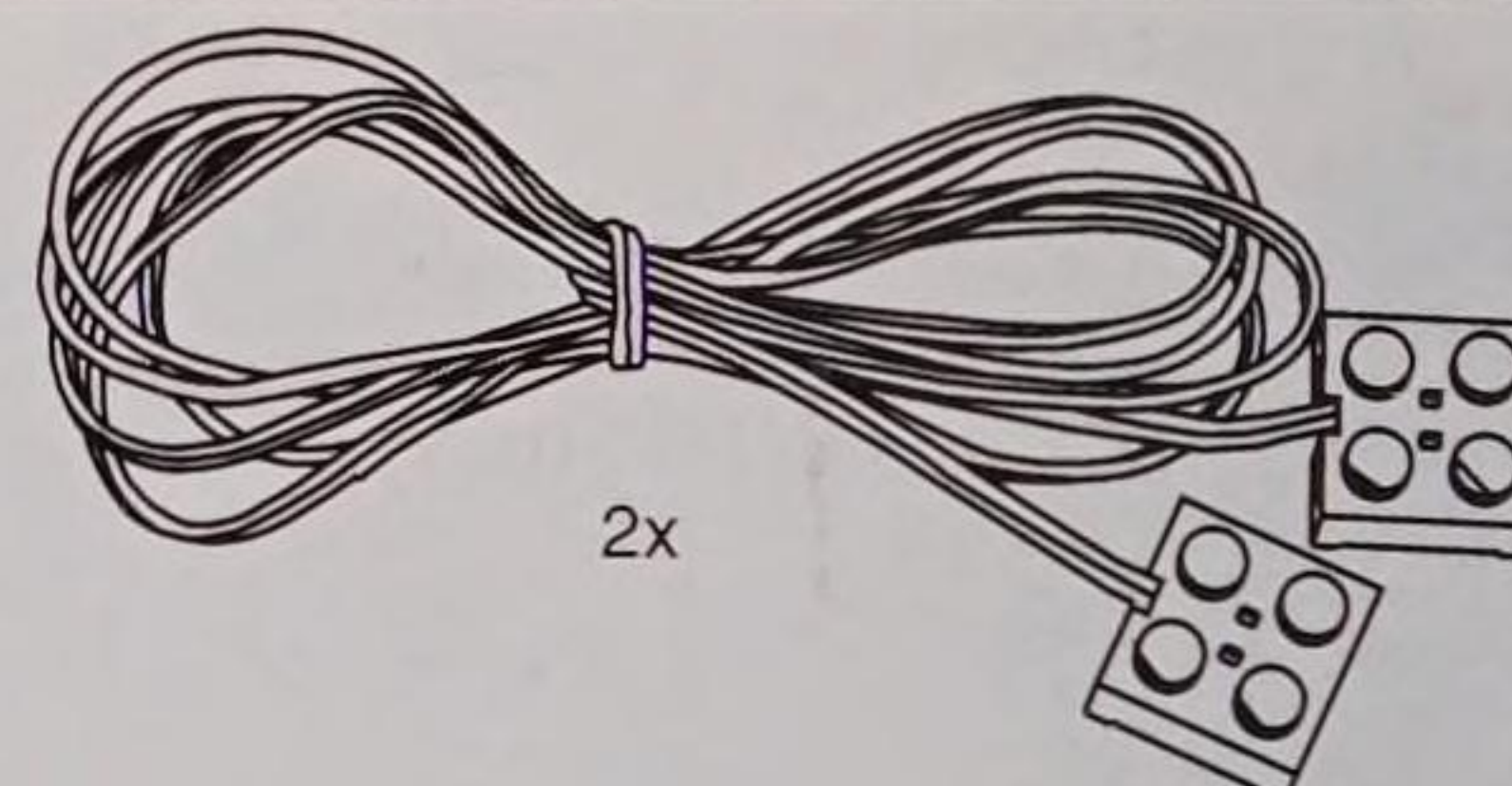
1x 1x  
12x 6x 2x  
6x 10x  
8x 4x 6x  
4x 2x  
**RED BASIC BRICKS**  
D779933—\$7  
**YELLOW BASIC BRICKS**  
D779934—\$7  
**BLACK BASIC BRICKS**  
D779935—\$7



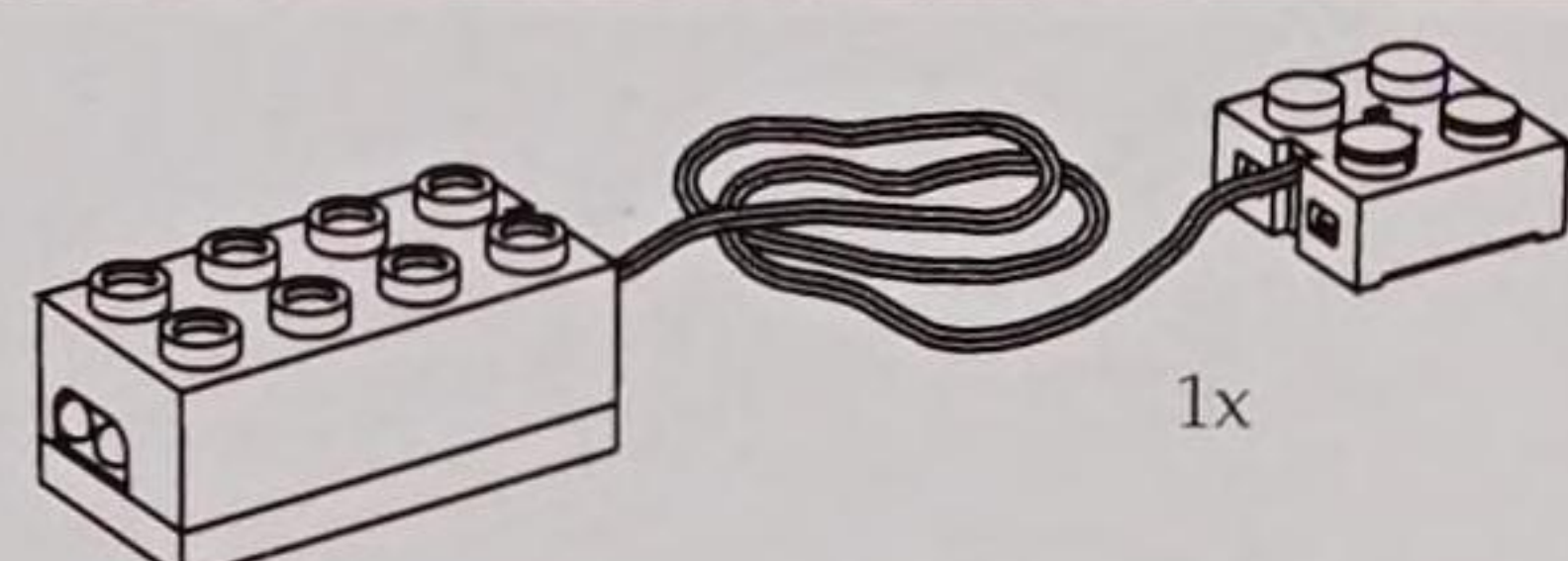
1x 1x  
11-3/8" 6-3/8"  
**9 VOLT TOUCH SENSOR AND LEADS**  
D779757—\$11



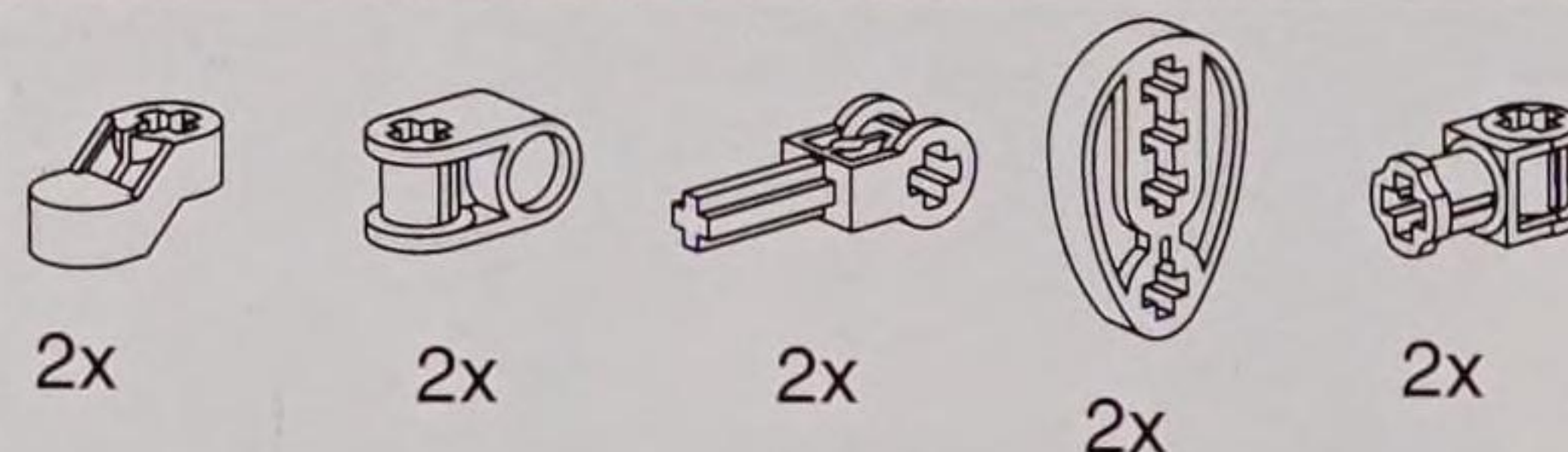
1x 1x 1x 1x  
**9-VOLT MICRO-MOTOR**  
D775119—\$10.25



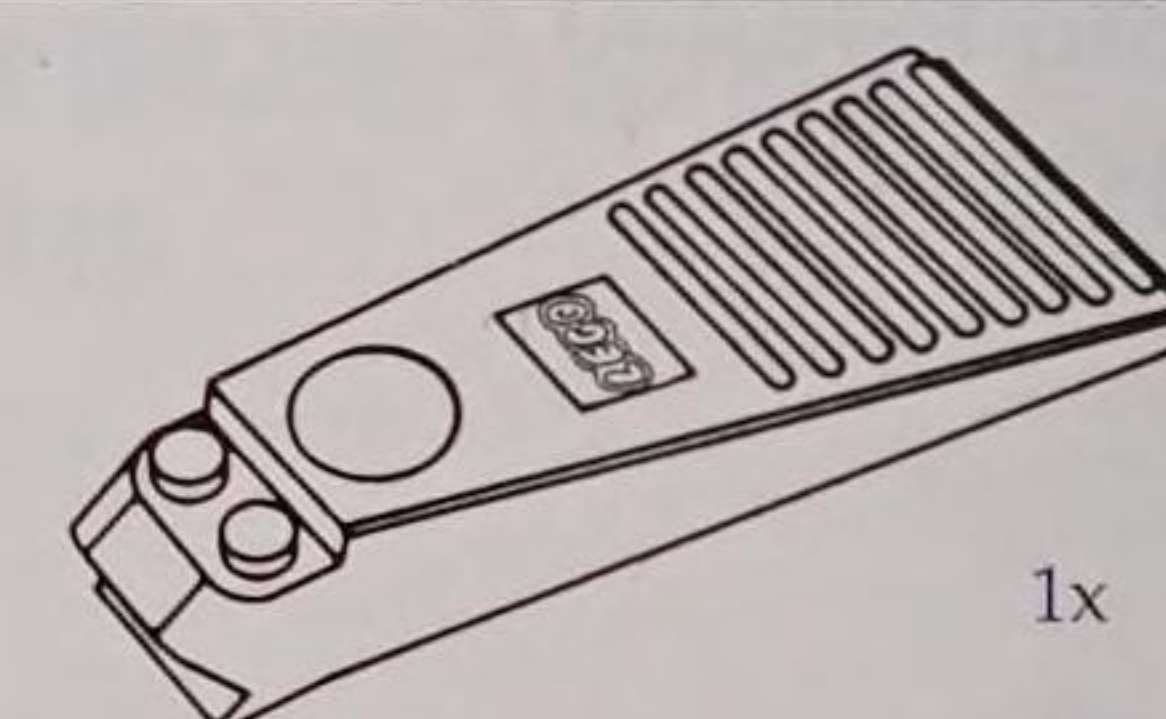
2x  
**9-VOLT LONG CONNECTING LEADS**  
(APPROX 10') D779898—\$13



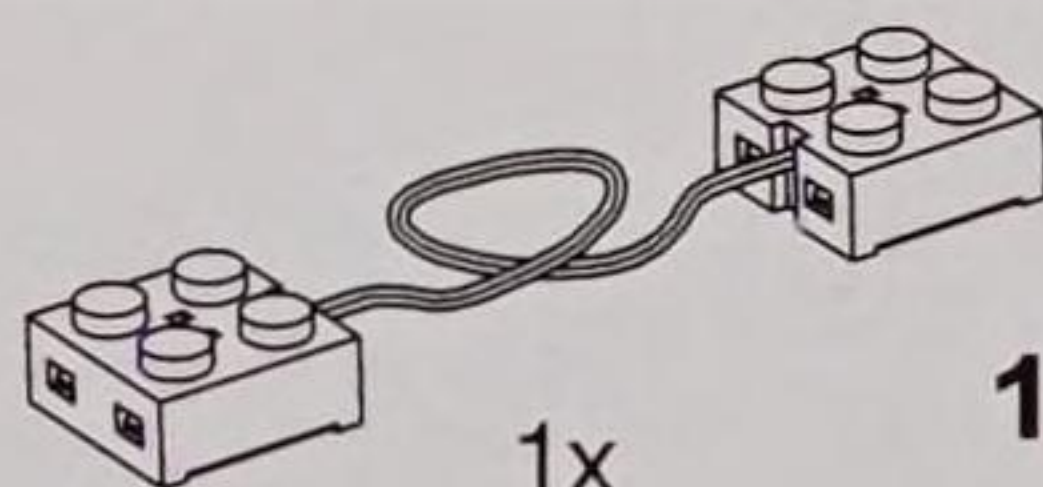
1x  
**9-VOLT LIGHT SENSOR**  
D779758—\$23.25



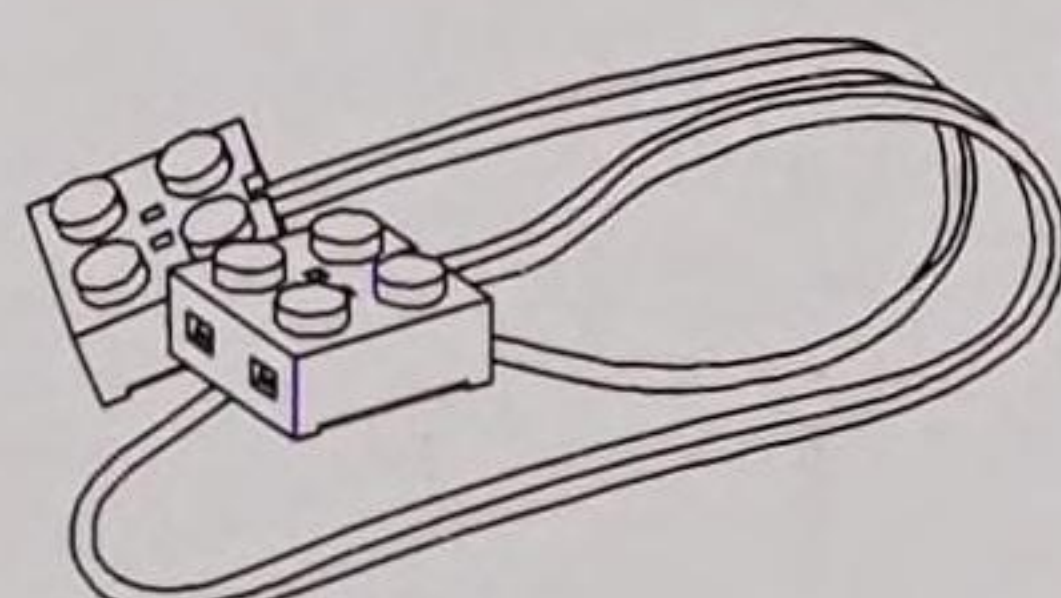
2x 2x 2x 2x 2x  
2x 2x 2x 2x  
**CAMS & LINKAGES**  
D779941—\$5.50



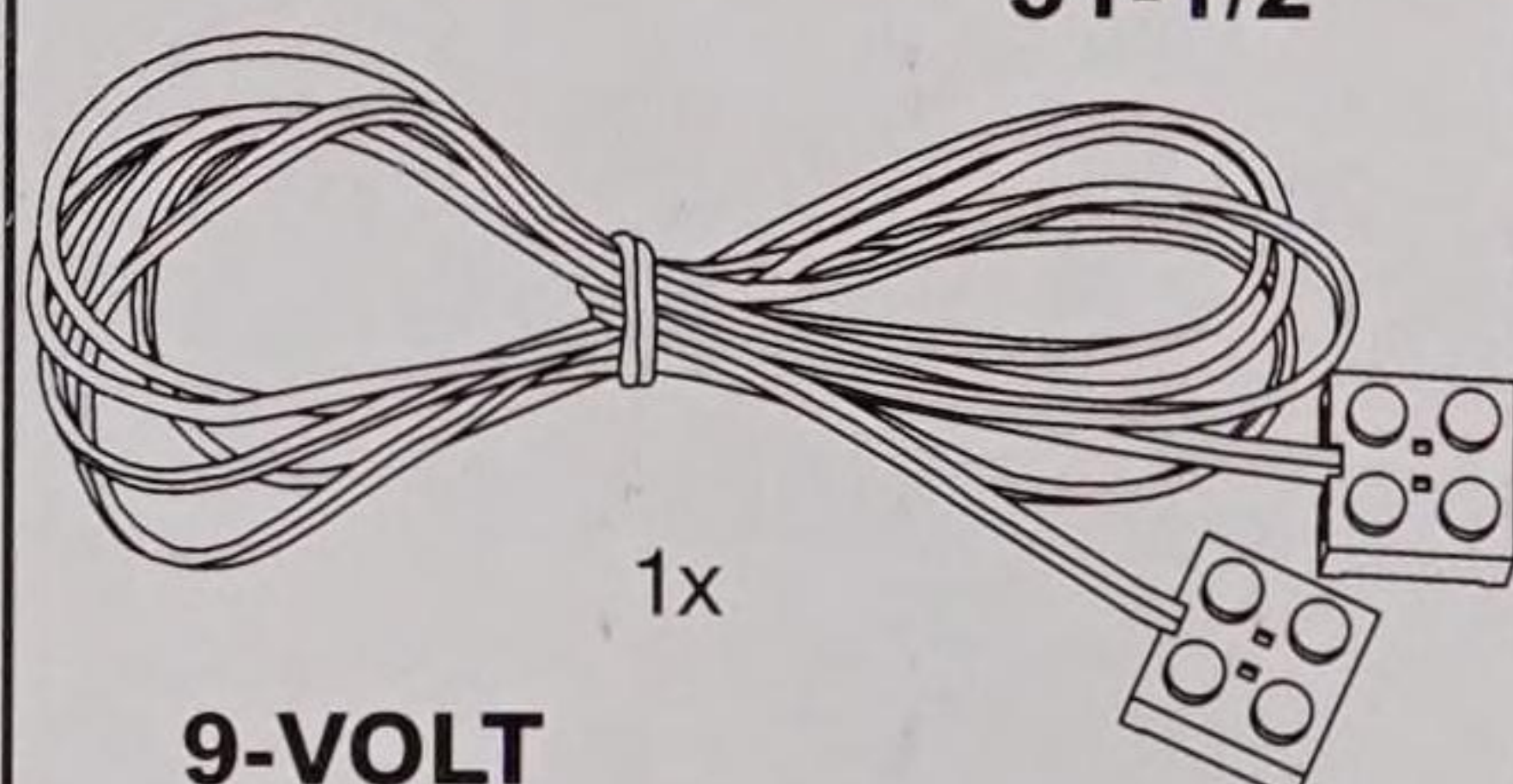
1x  
**BRICK SEPARATOR**  
D779892—\$5



11-3/8"

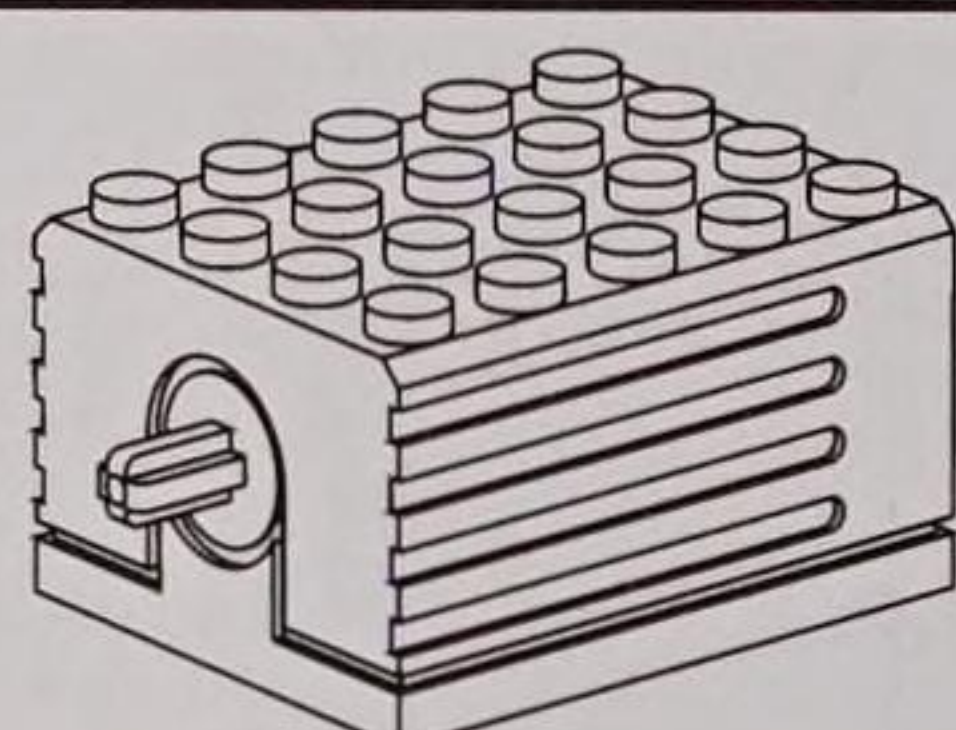


21-3/4"

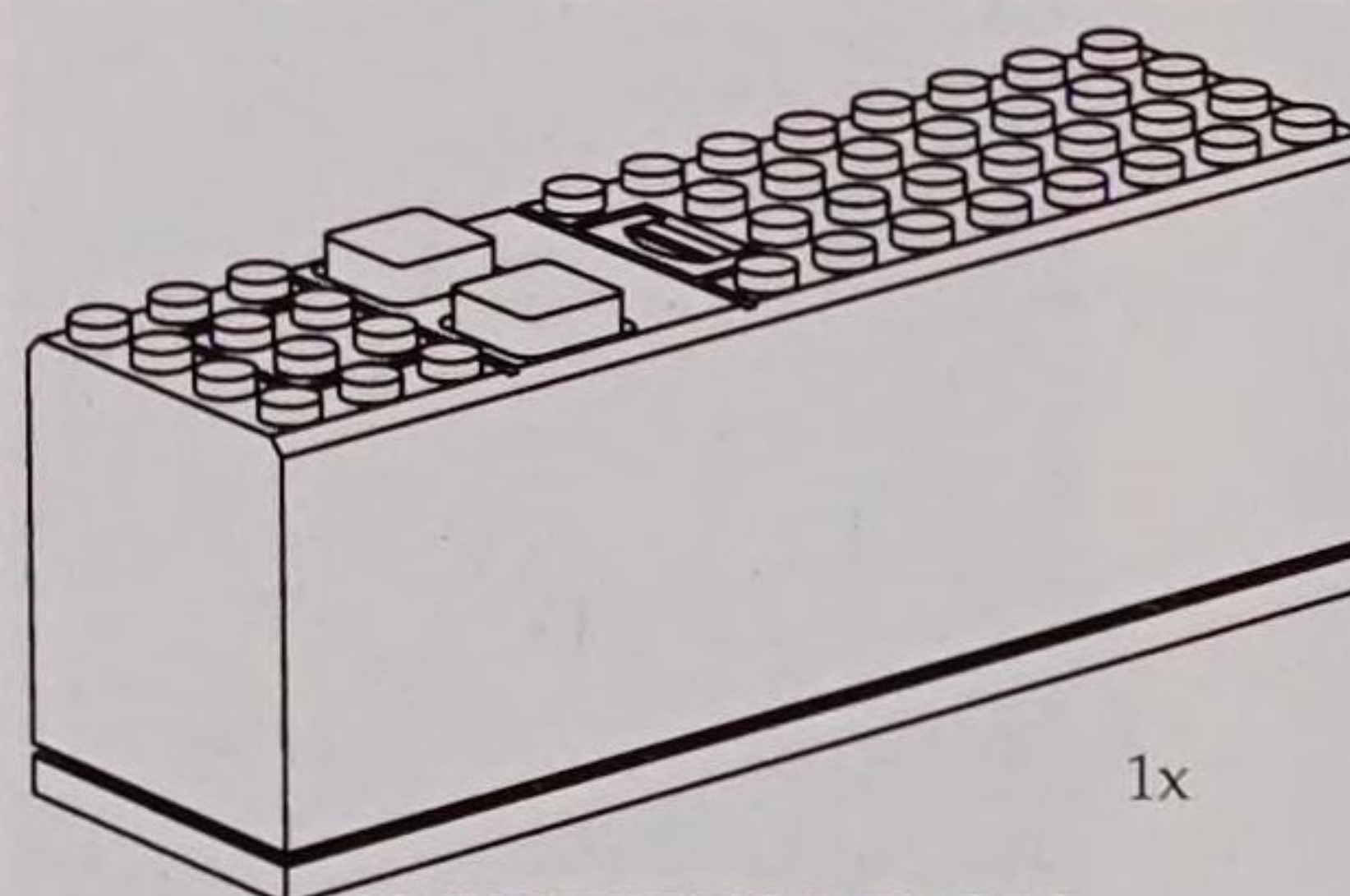


51-1/2"

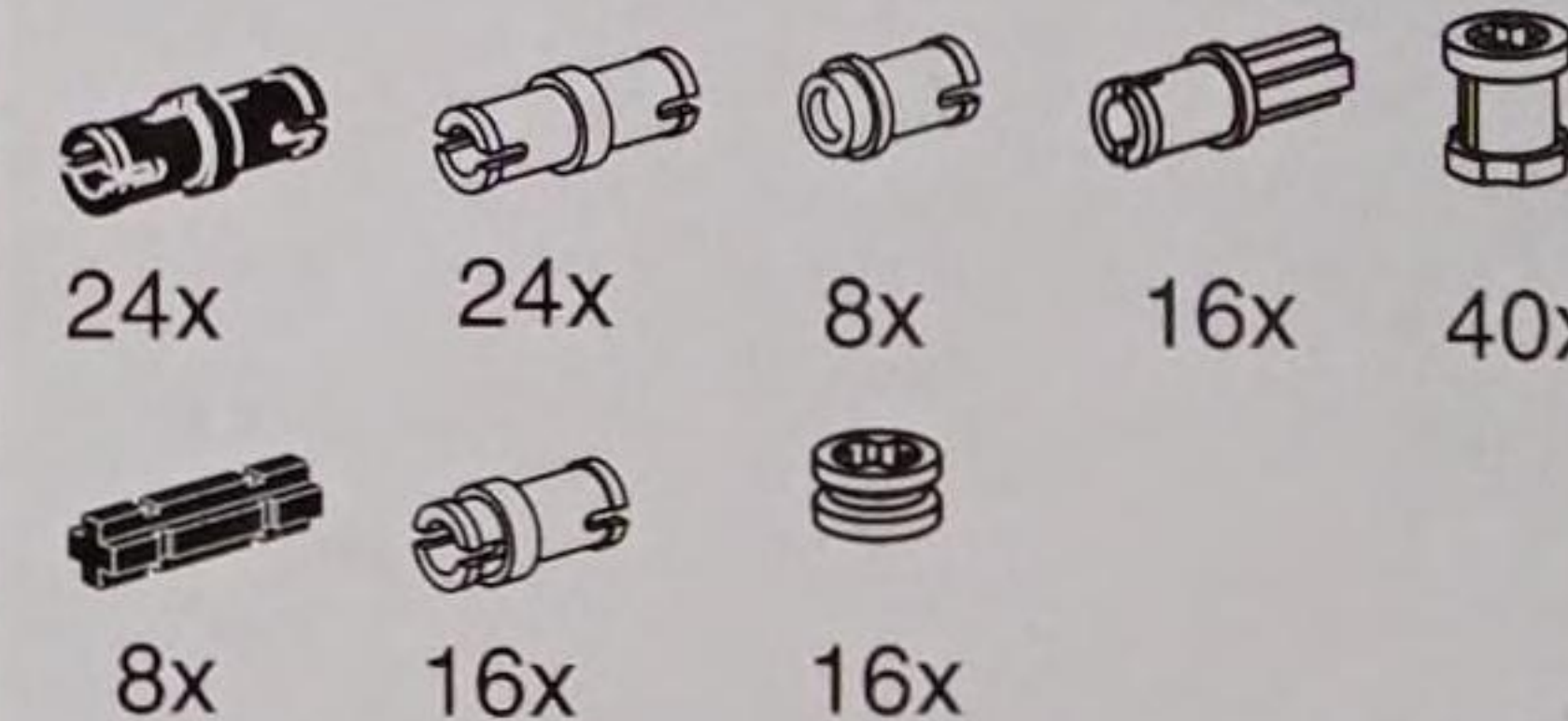
1x  
**9-VOLT CONNECTING LEADS**  
D779897—\$13



1x  
**9-VOLT MOTOR**  
D775114—\$17.50



1x  
**BATTERY BOX WITH SWITCH**  
D779831—\$16.75



24x 24x 8x 16x 40x  
8x 16x 16x  
**CONNECTORS & BUSHINGS**  
D779942—\$7.25

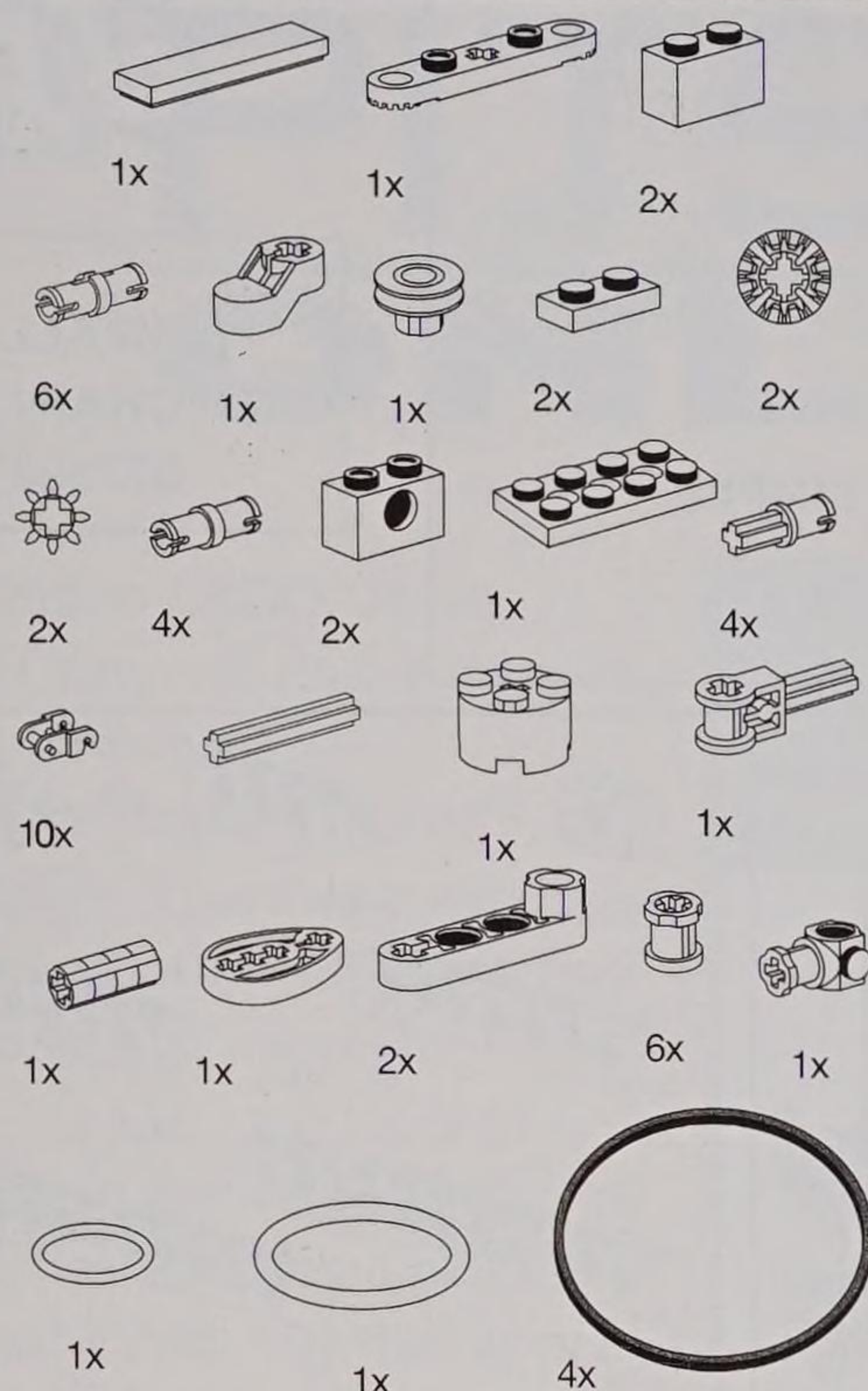


1x  
**SOUND ELEMENT**  
D779885—\$10.50

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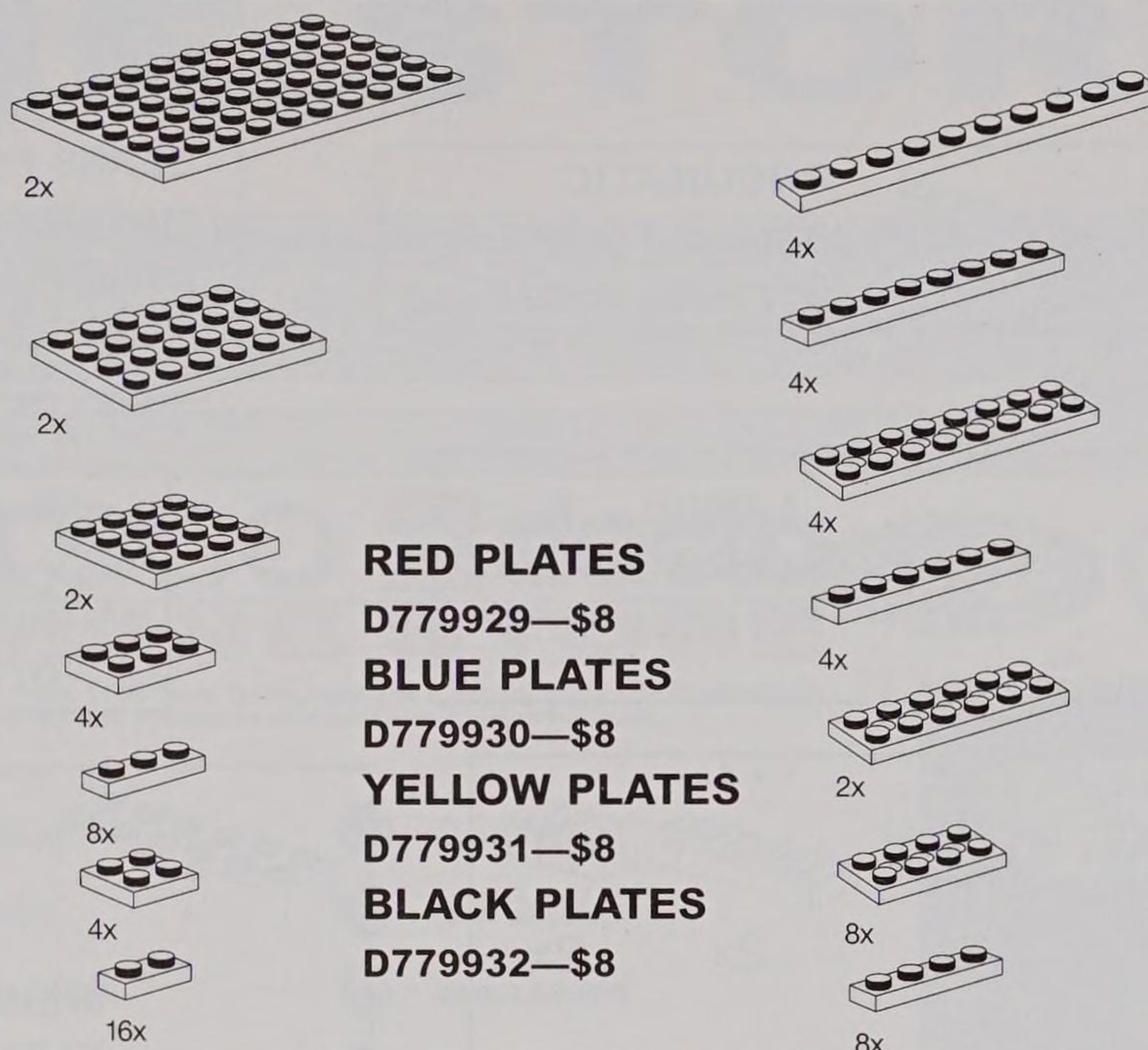
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**SPECIAL ELEMENTS  
FOR PRODUCT #979630**

**D779956—\$5.50**



## RED PLATES

**D779929—\$8**

## BLUE PLATES

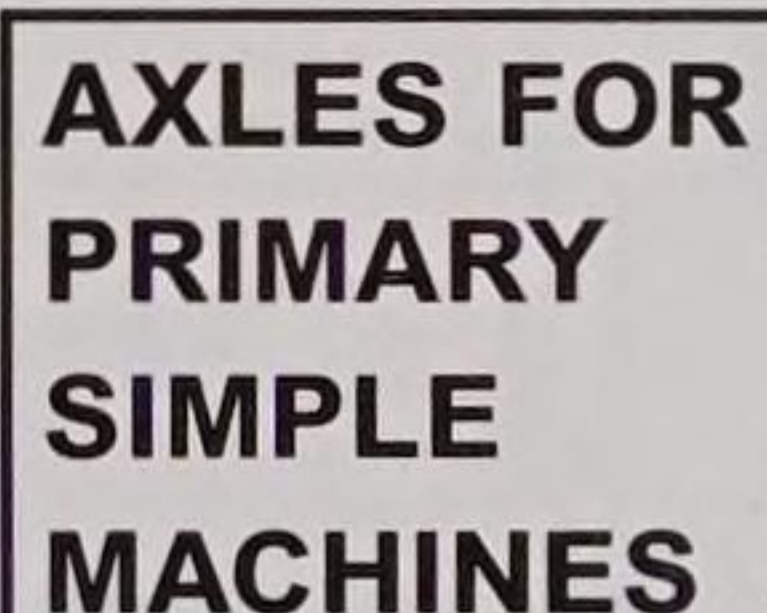
**D779930—\$8**

## YELLOW PLATES

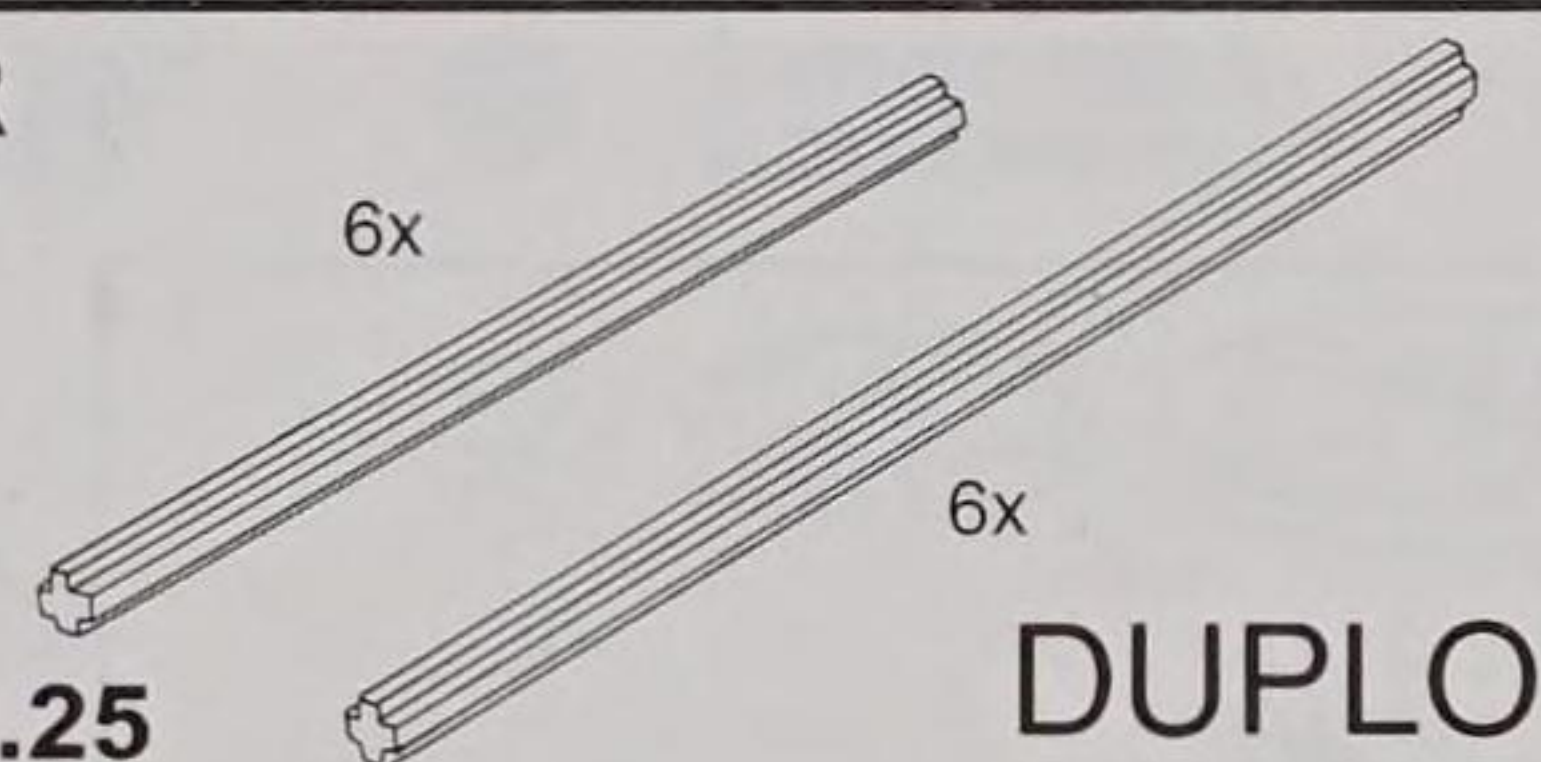
**D779931—\$8**

## BLACK PLATES

**D779932—\$8**

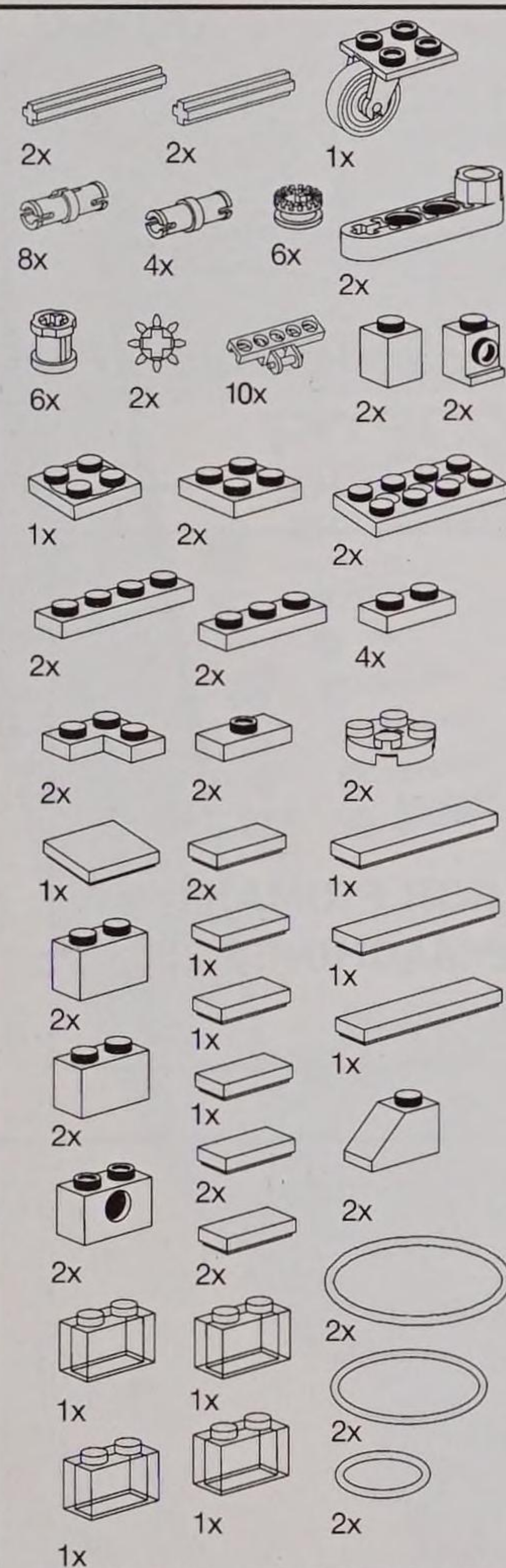


**D779837—\$7.25**



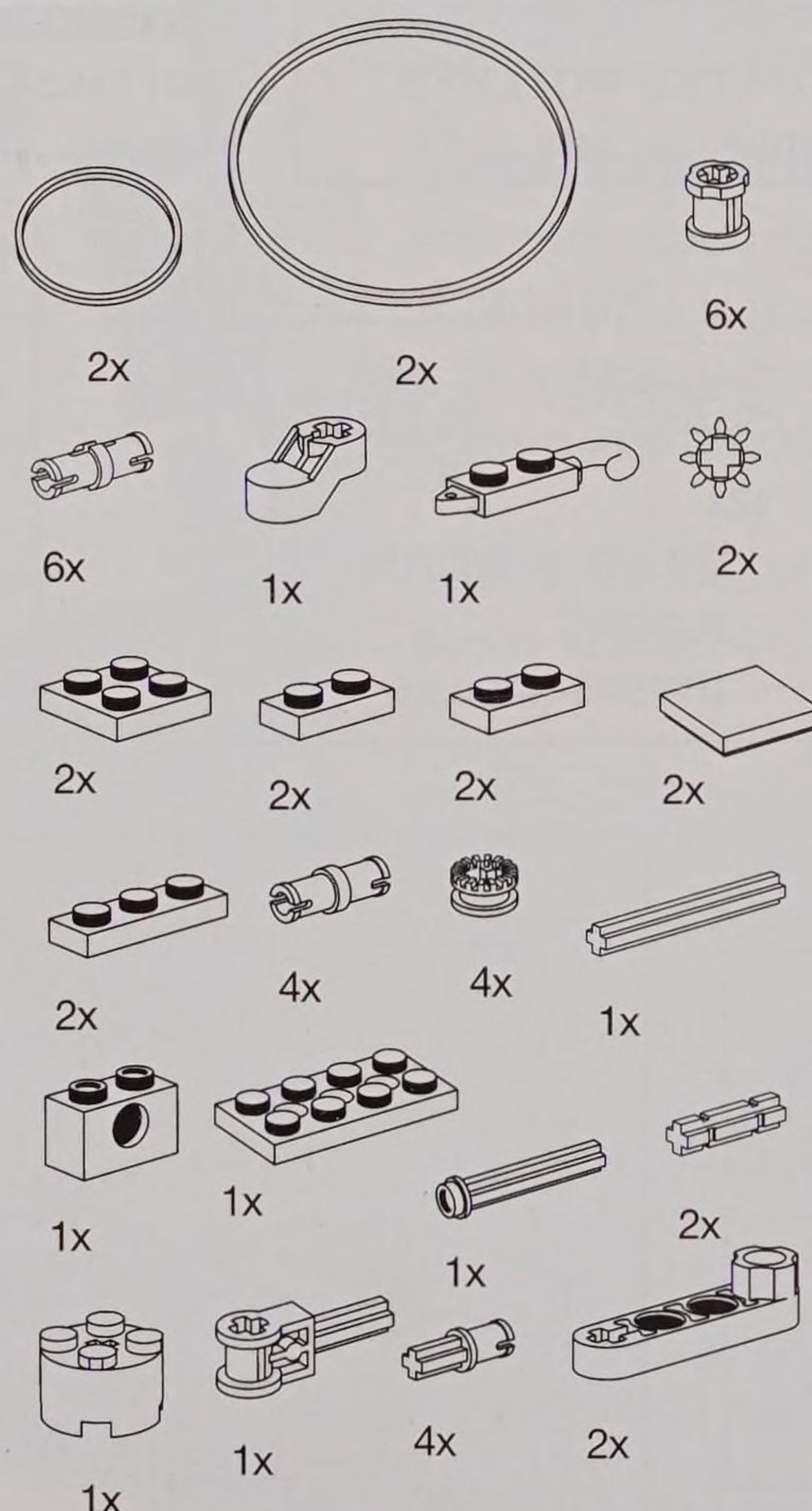
## GREEN BUILDING PLATES

**D779864—\$7.75**



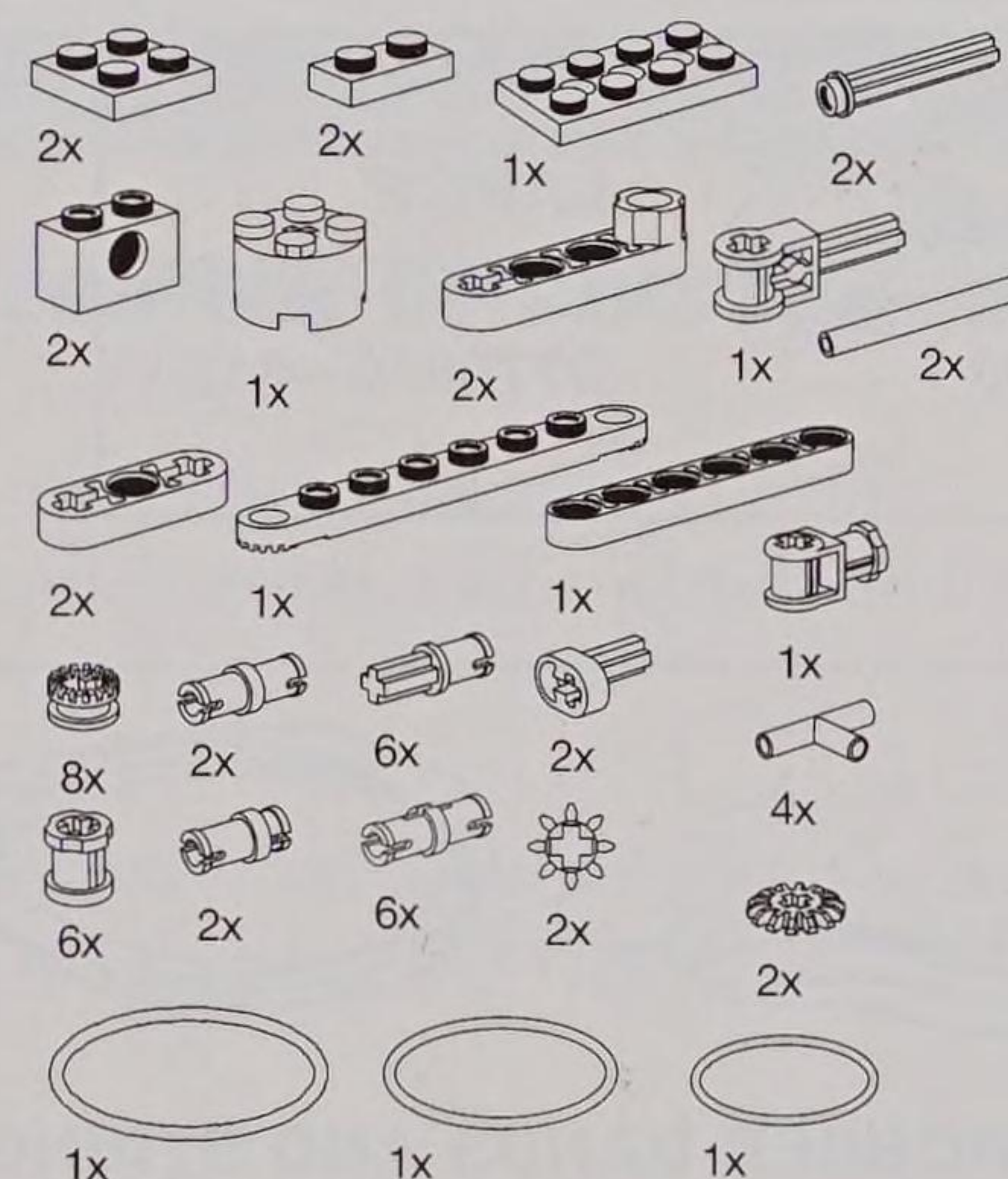
**SPECIAL ELEMENTS  
FOR 979701**

**D779958—\$9**



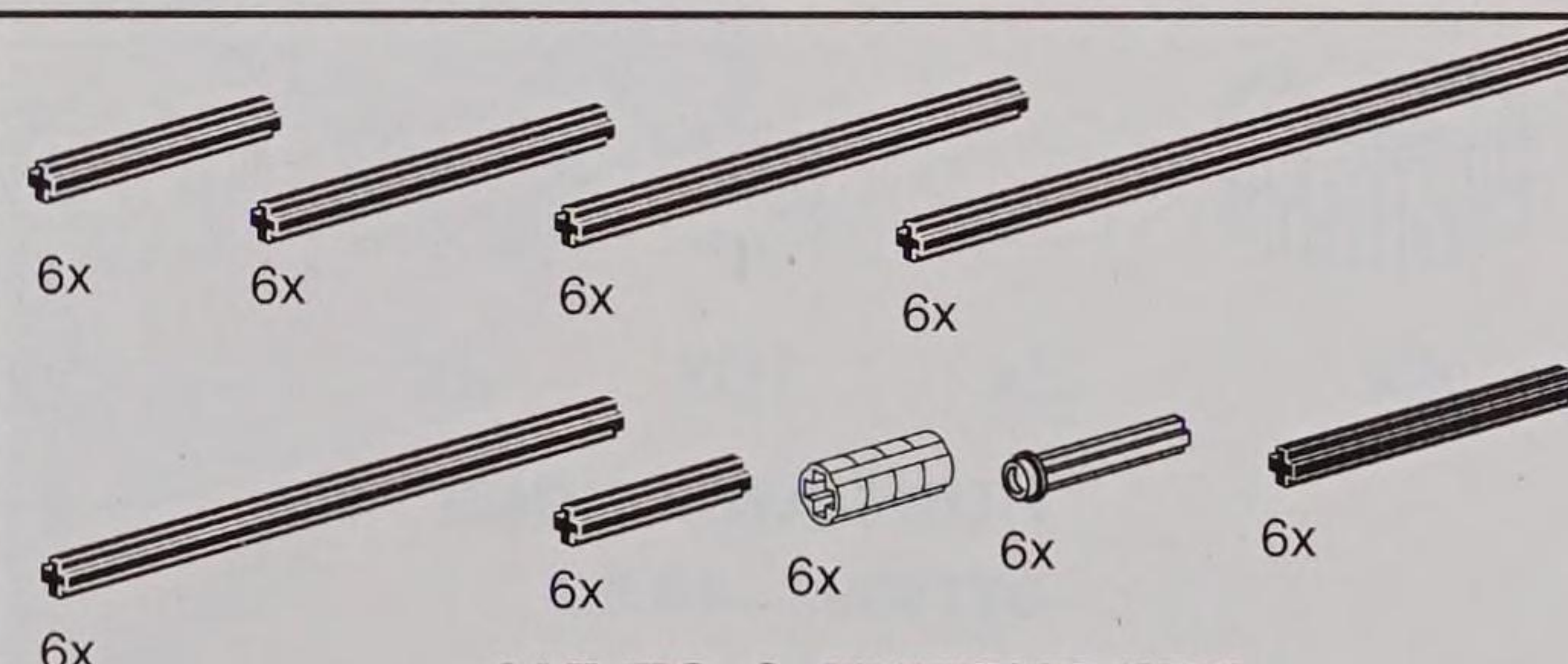
## SPECIAL ELEMENTS FOR MINI SETS

**D779954—\$3.50**



**SPECIAL ELEMENTS FOR  
PRODUCT #979633**

**D779955—\$5.50**

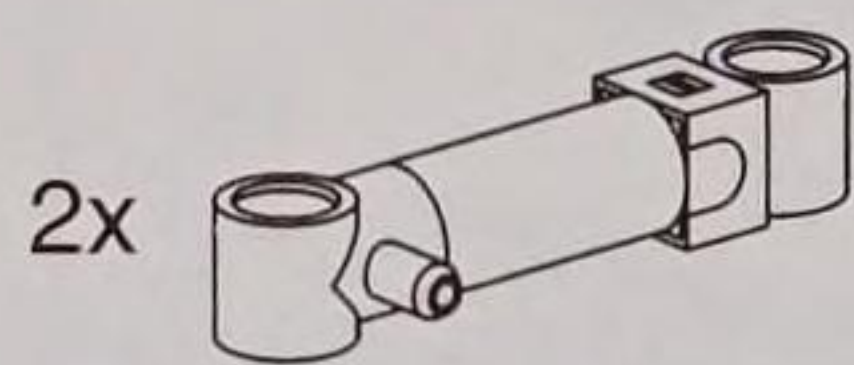


## AXLES & EXTENDERS

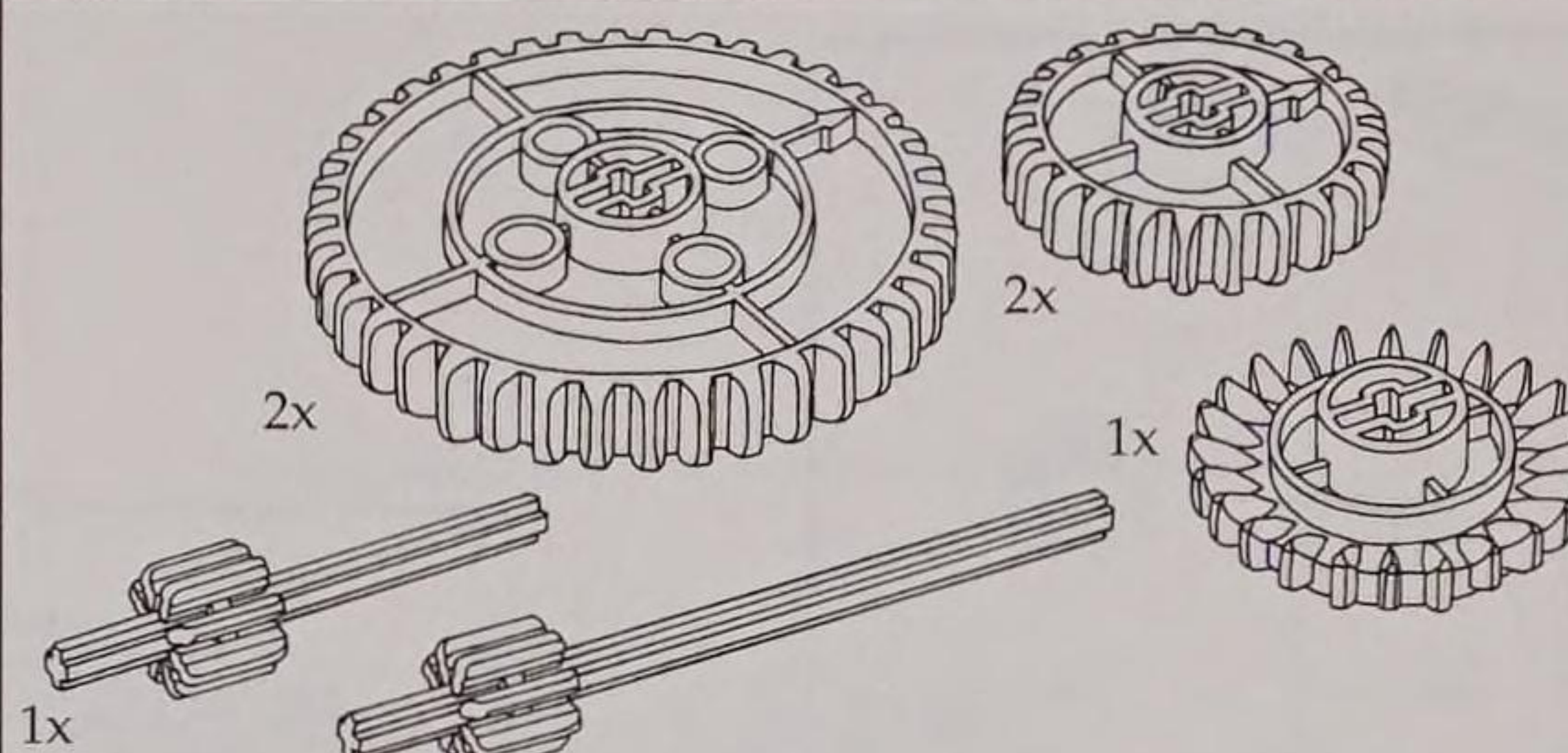
**D779943—\$6.50**



# 110 Parts



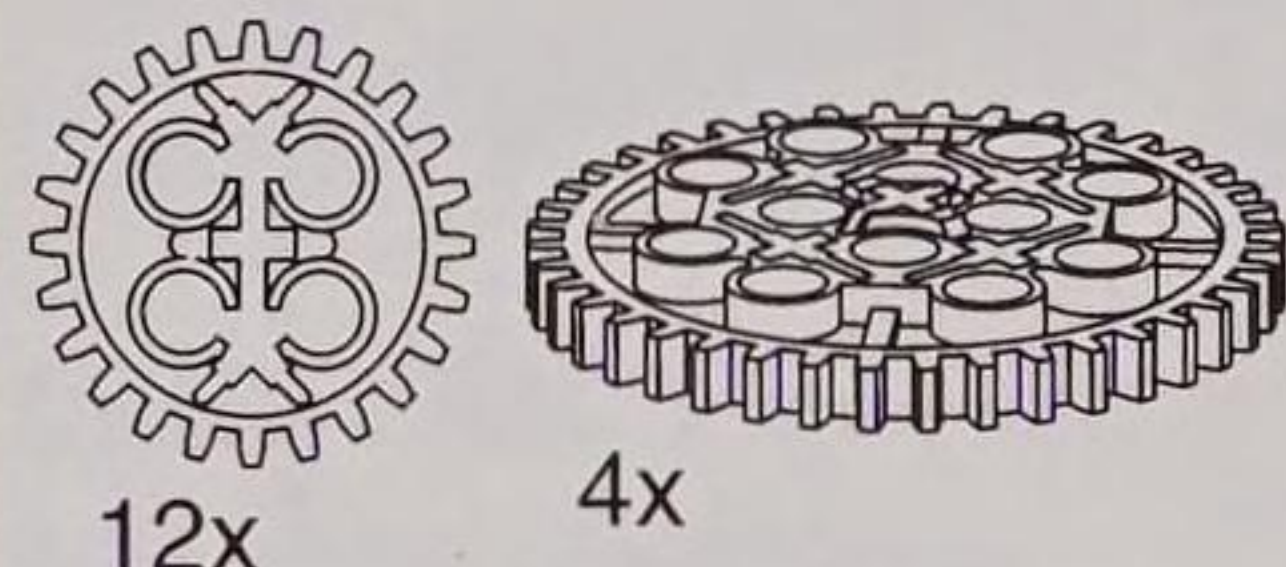
**PNEUMATIC  
SMALL PUMPS**  
D779915—\$10.75



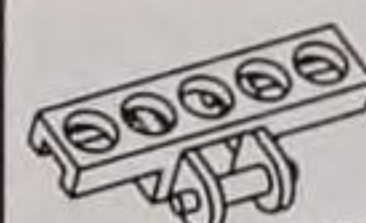
**GEARS FOR PRIMARY SIMPLE  
MACHINES (DUPLO)**  
D779838—\$7.25



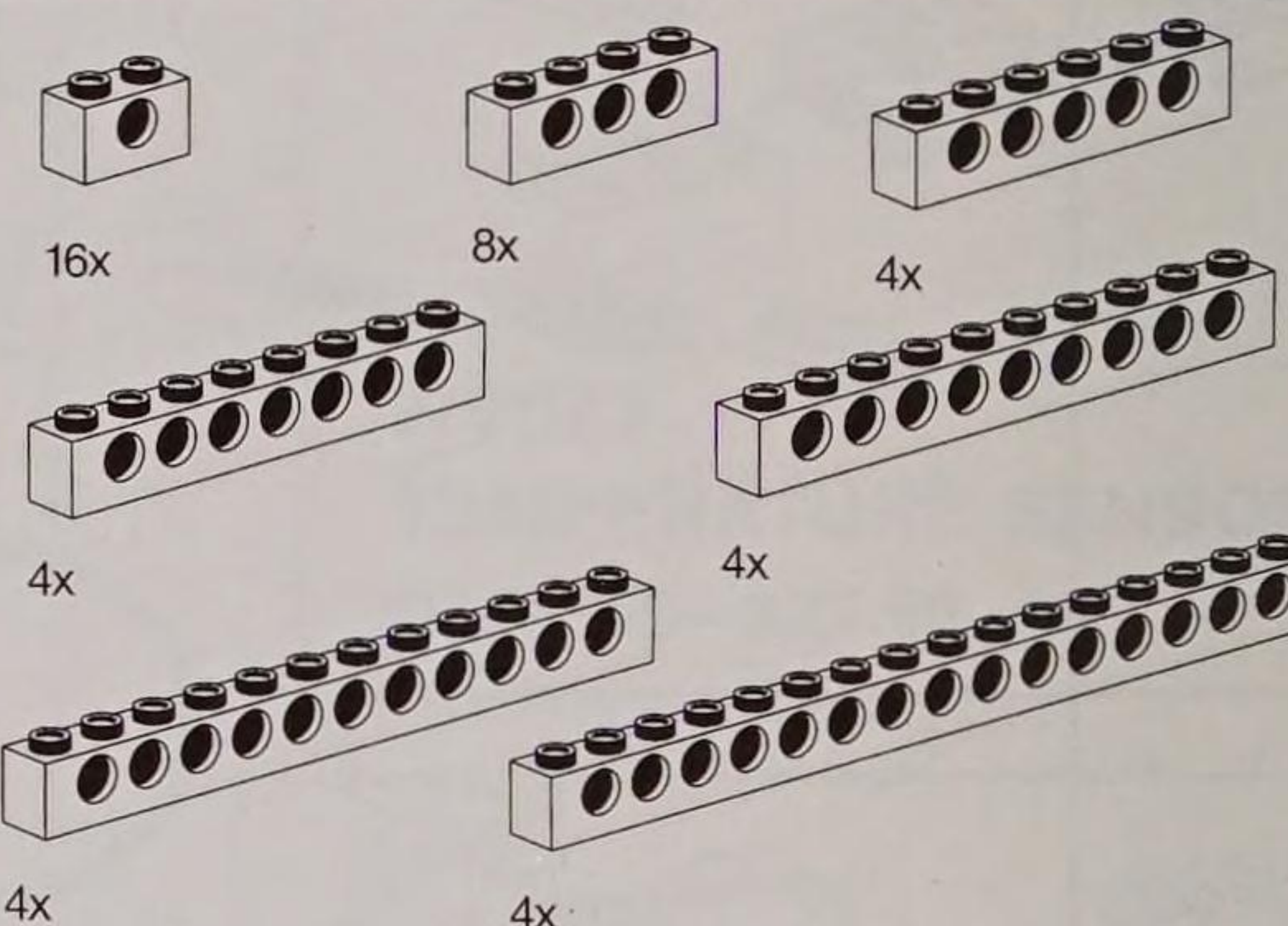
**SMALL  
CHAIN LINKS**  
D779937—\$6.50



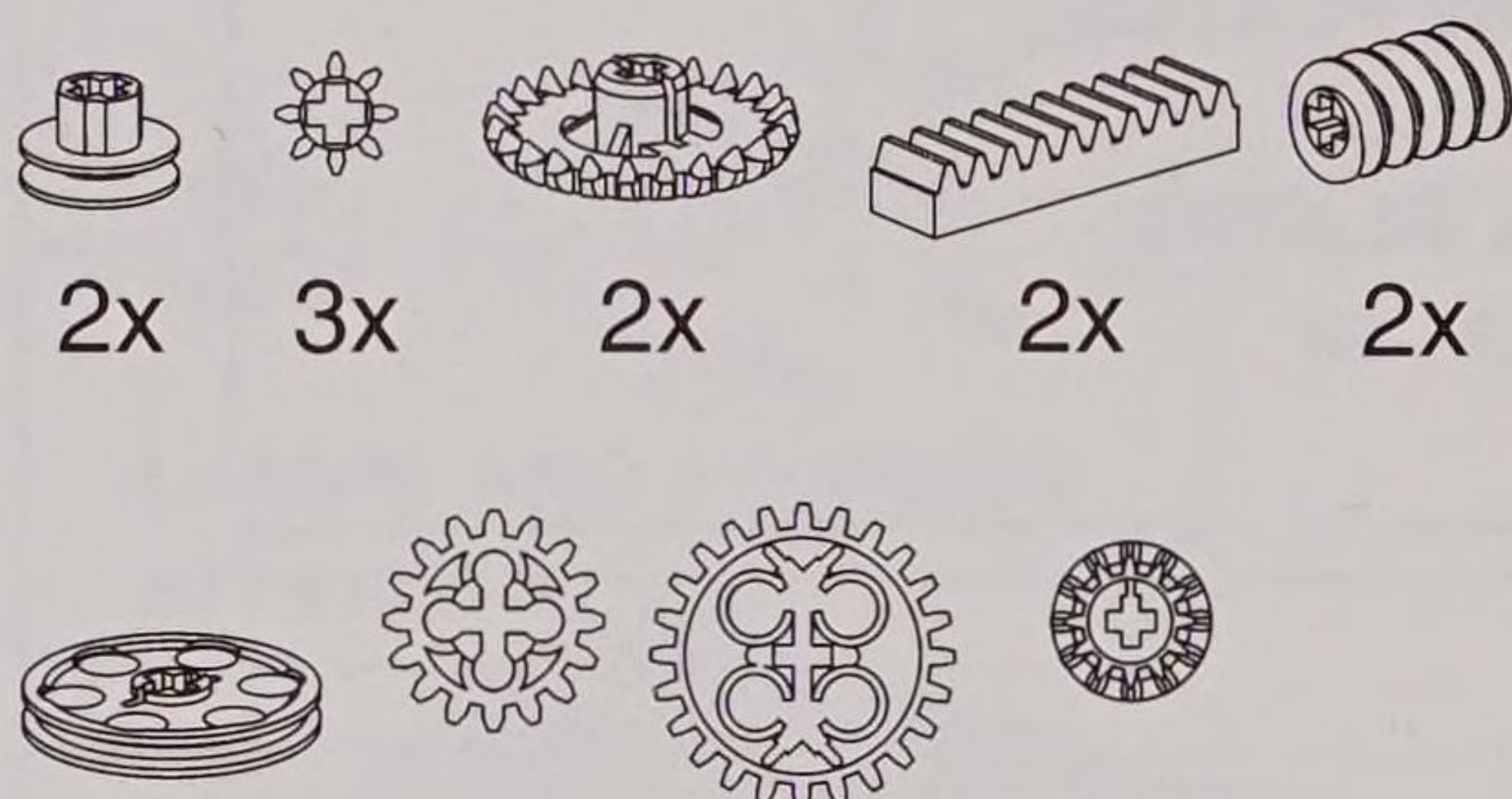
**LARGE  
GEAR WHEELS**  
D779966—\$7.25



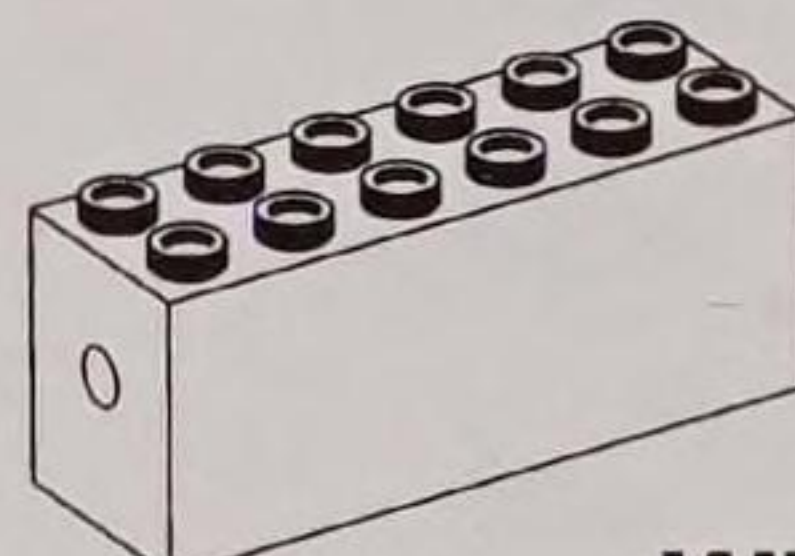
**CONVEYOR  
BELT LINKS**  
D779938—\$6.50



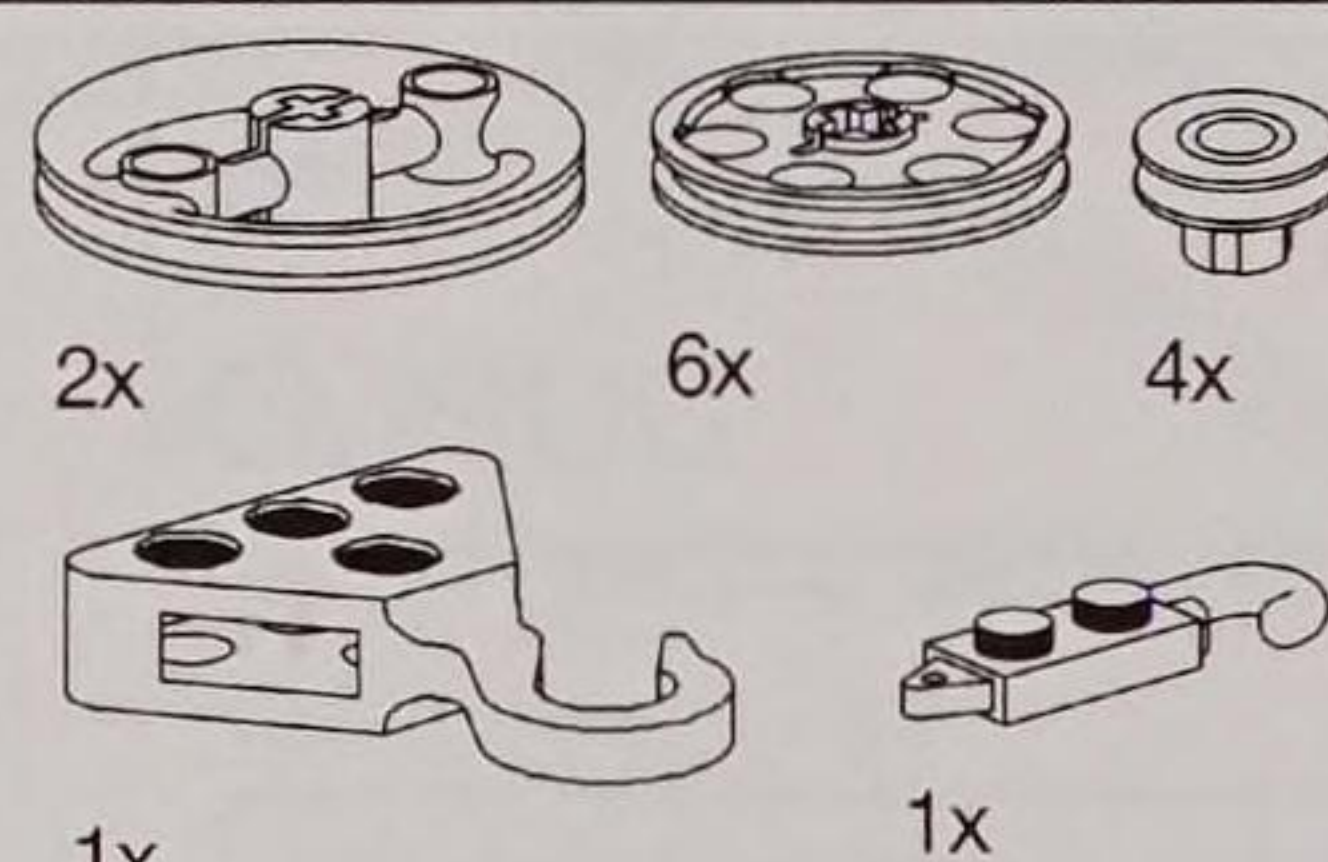
**RED BEAMS**  
D779927—\$9  
**BLUE BEAMS**  
D779928—\$9



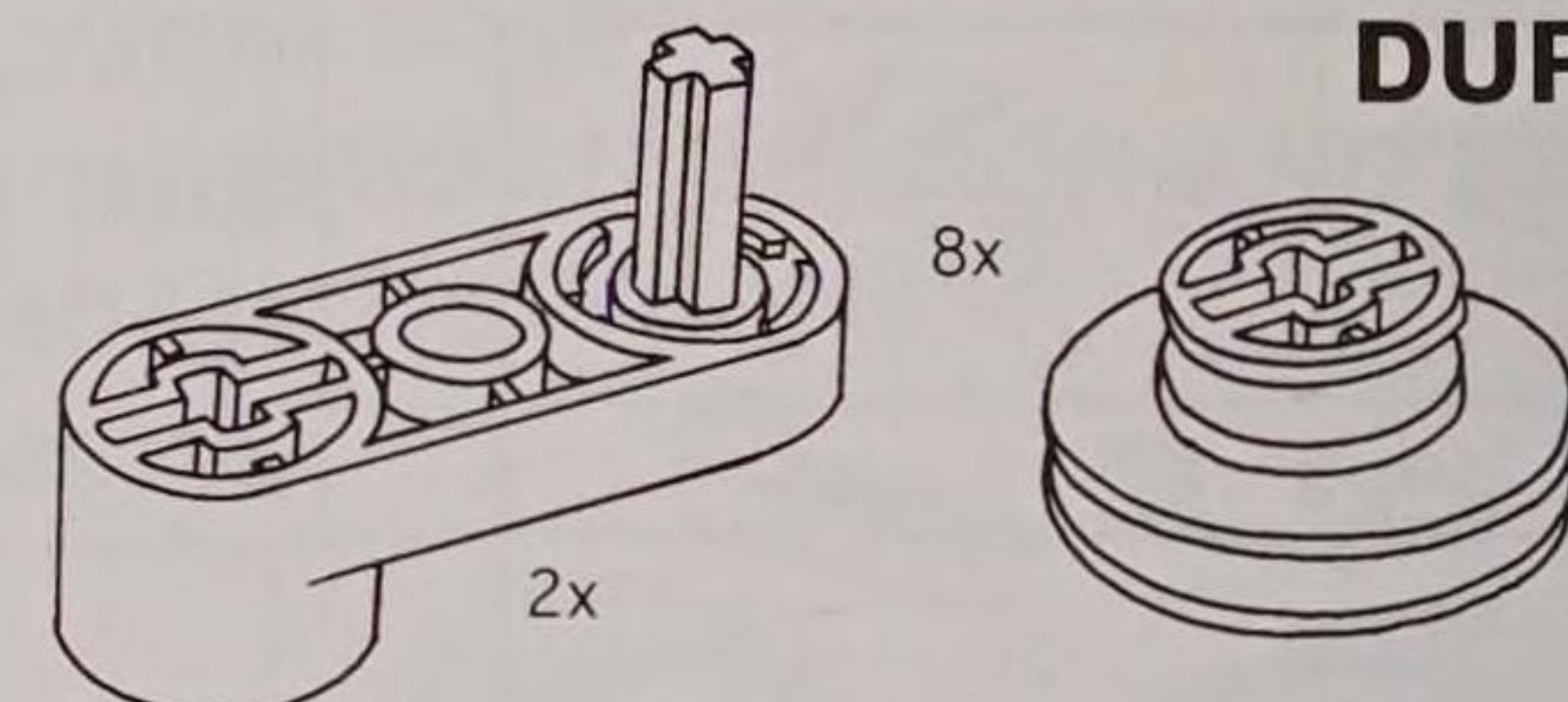
**SMALL GEAR WHEELS**  
D779900—\$6.50



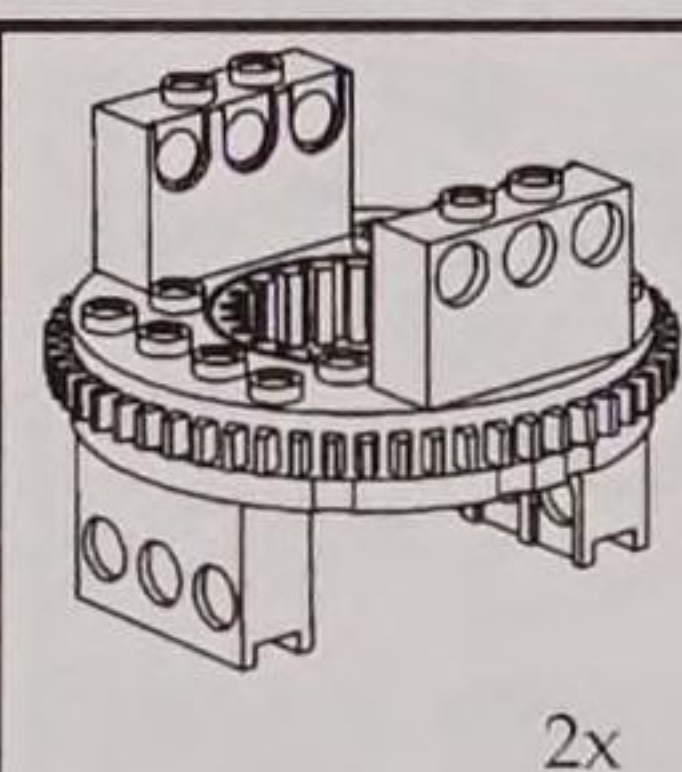
**WEIGHT  
ELEMENTS**  
D779936—\$4.75



**ASSORTED PULLEYS**  
D779939—\$6.50

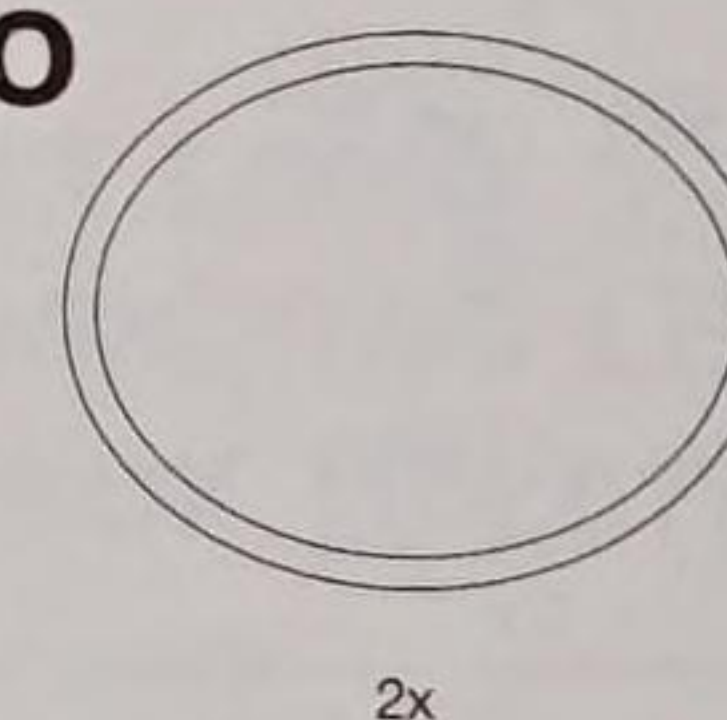


**SMALL PULLEYS AND HANDLES PSM**  
D779839—\$7.25

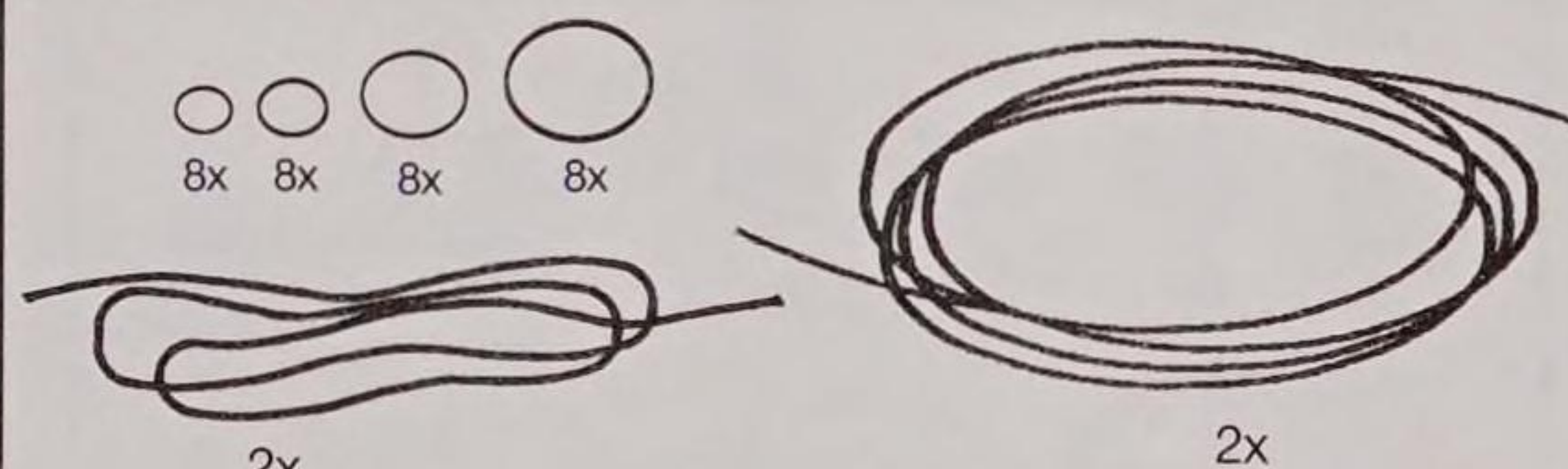


**LARGE  
TURNTABLES**  
D779876—\$10

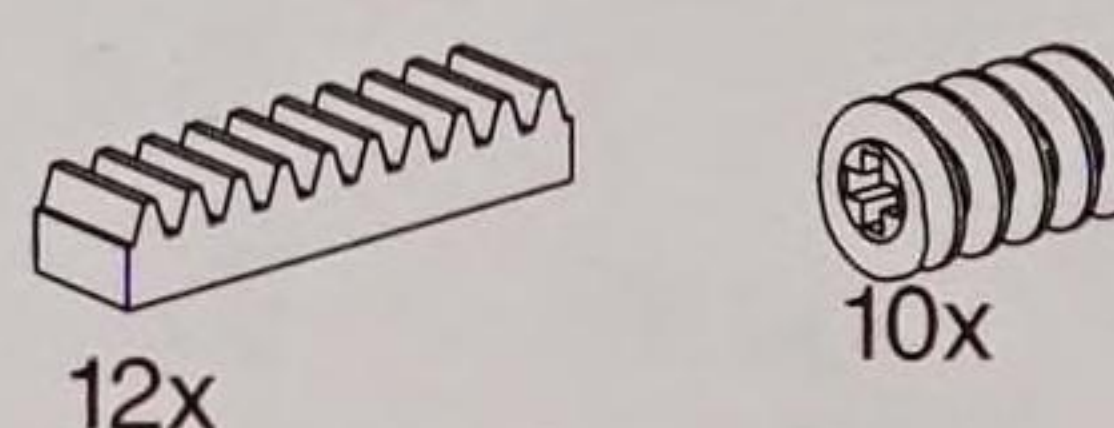
**DUPLO**



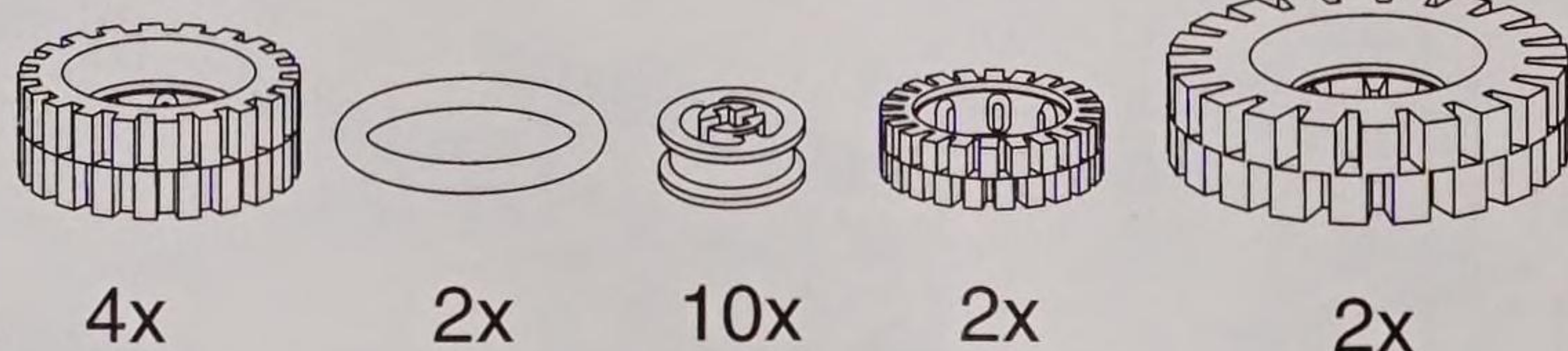
**BELTS FOR PRIMARY  
SIMPLE MACHINES**  
D779834—\$3.50



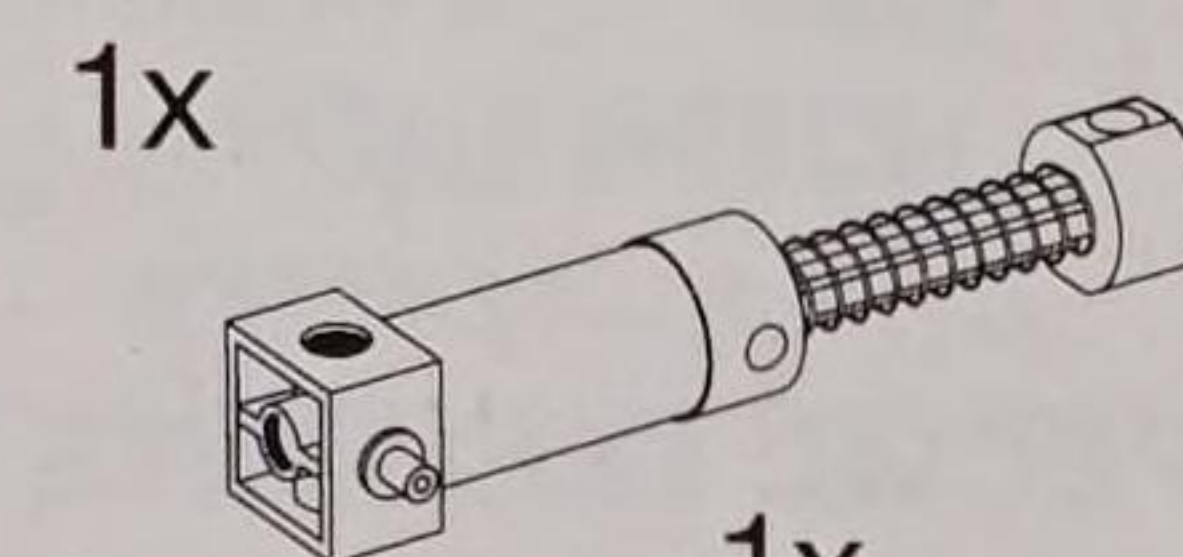
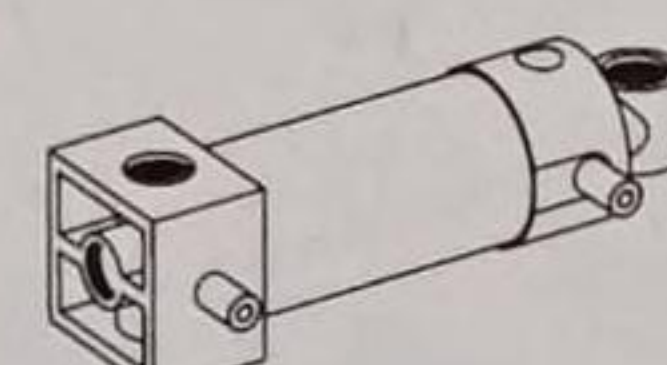
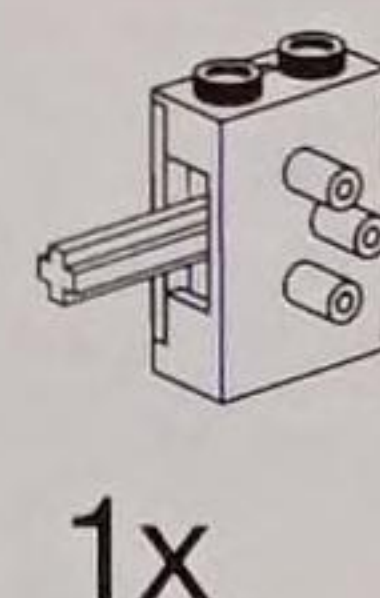
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D779940—\$7.25



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RACKS**  
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D779776—\$9.50

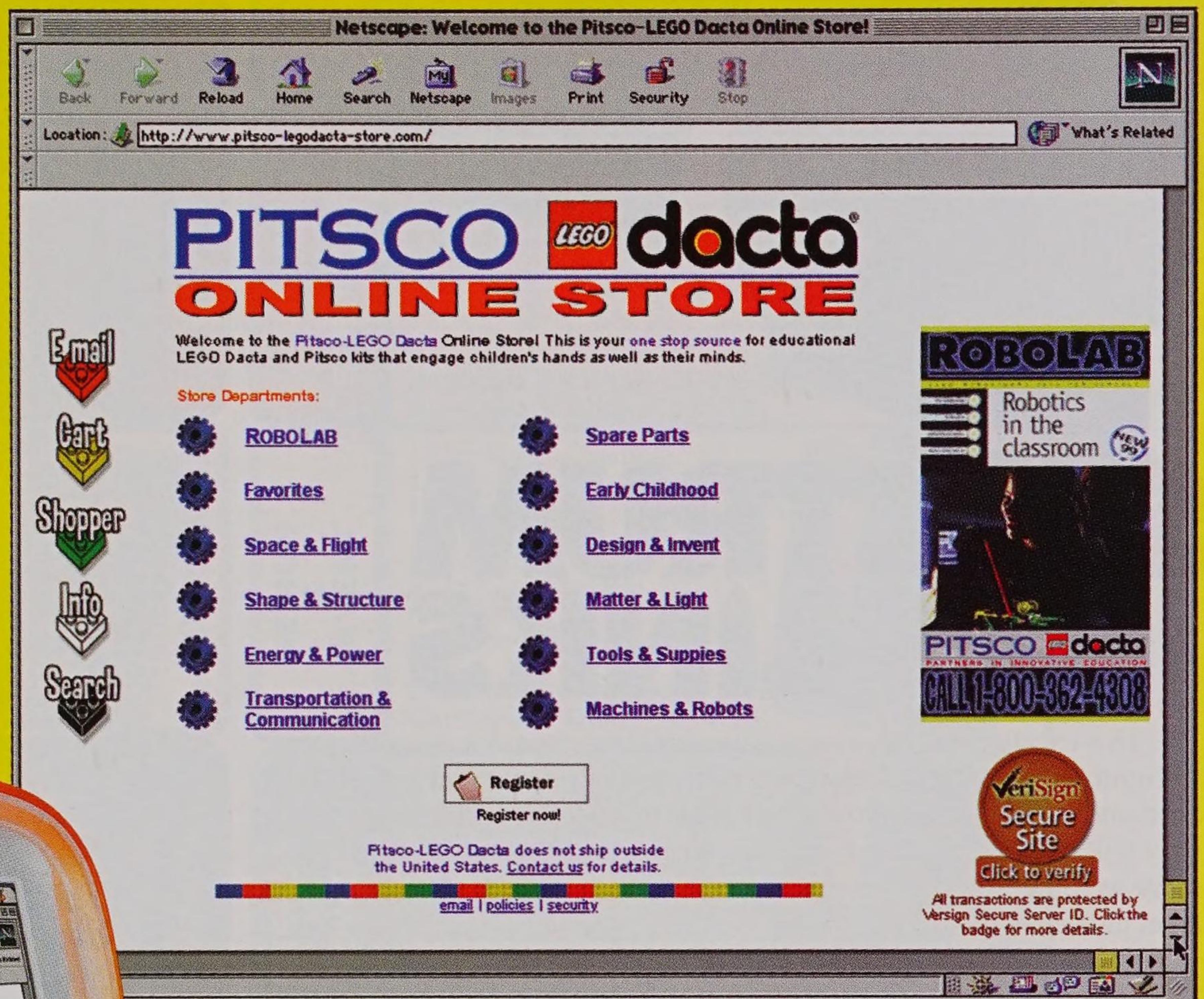
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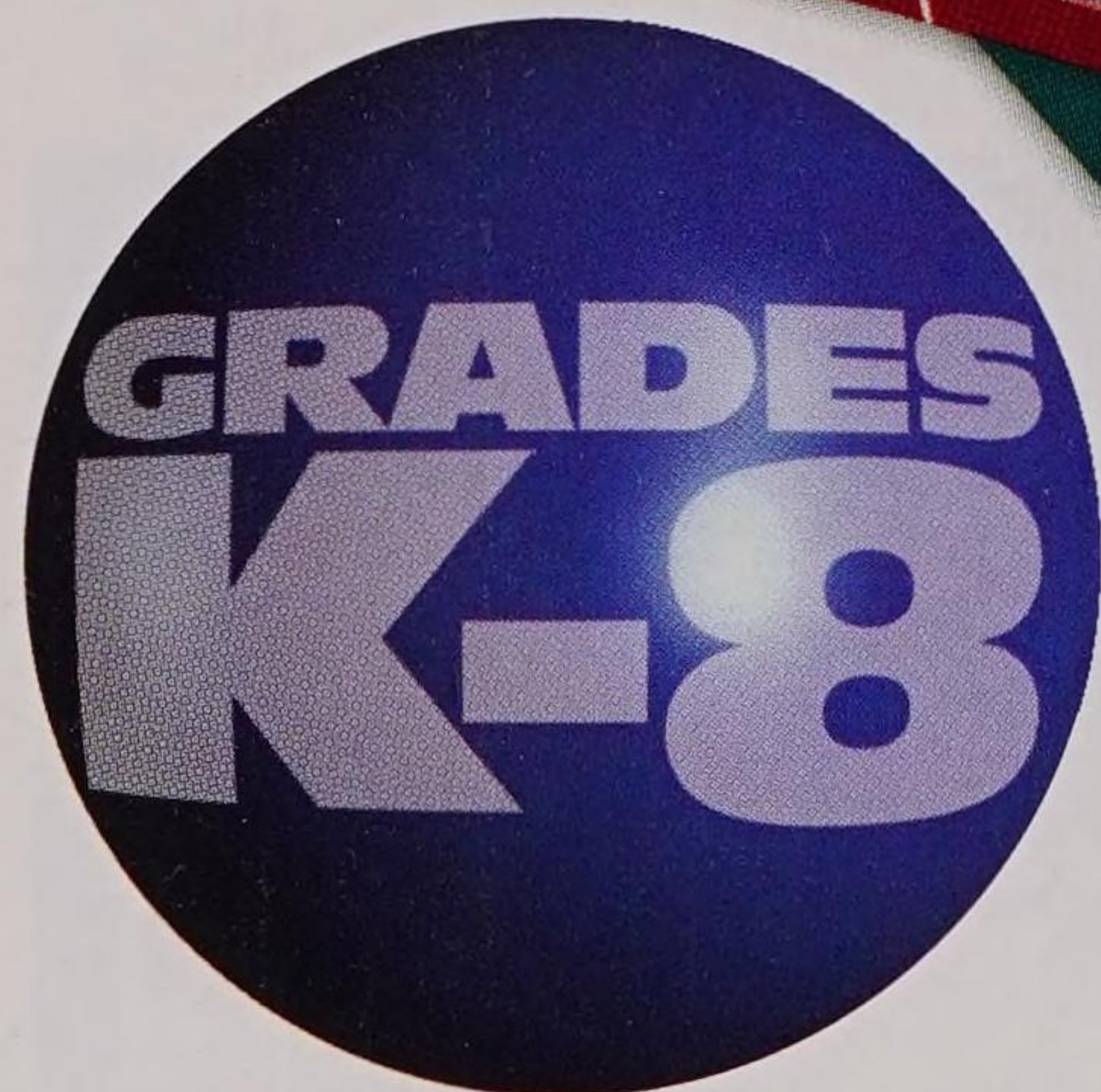
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This excellent curriculum engages children, from kindergarten to eighth grade, in activities which relate to their home and school. Students work in small groups and are introduced to concepts that they will build upon. In this spiraled curriculum, these experiences serve as foundations for more complex experiences as their grade level increases.

The hands-on activities are designed to initiate questions and awaken their interest. Each activity builds upon the students' previous experiences. There are multiple activities in each topic area for each grade level.

Through these activities, students discover concepts related to materials, structures, mechanisms, energy, and control. Students are introduced to a comprehensive range of skills, which are developed at an age-appropriate level. Students at each level are engaged in challenging activities designed to develop and further the higher order thinking skills. Basic concepts are learned through these activities delivered within the contexts of seven subject areas.

Within each of these contexts, activities are enhanced through the use of LEGO Dacta and Pitsco products in addition to inexpensive, easy-to-find materials. Check our tools and supplies section, toward the end of this catalog, for many of these products. Students who participate in this integrated curriculum will be actively engaged in a constructionist approach to learning.

SPECTRUM LINKS™ curriculum is designed to be incorporated into existing elementary instruction and is highly adaptable to suit *your* classroom.

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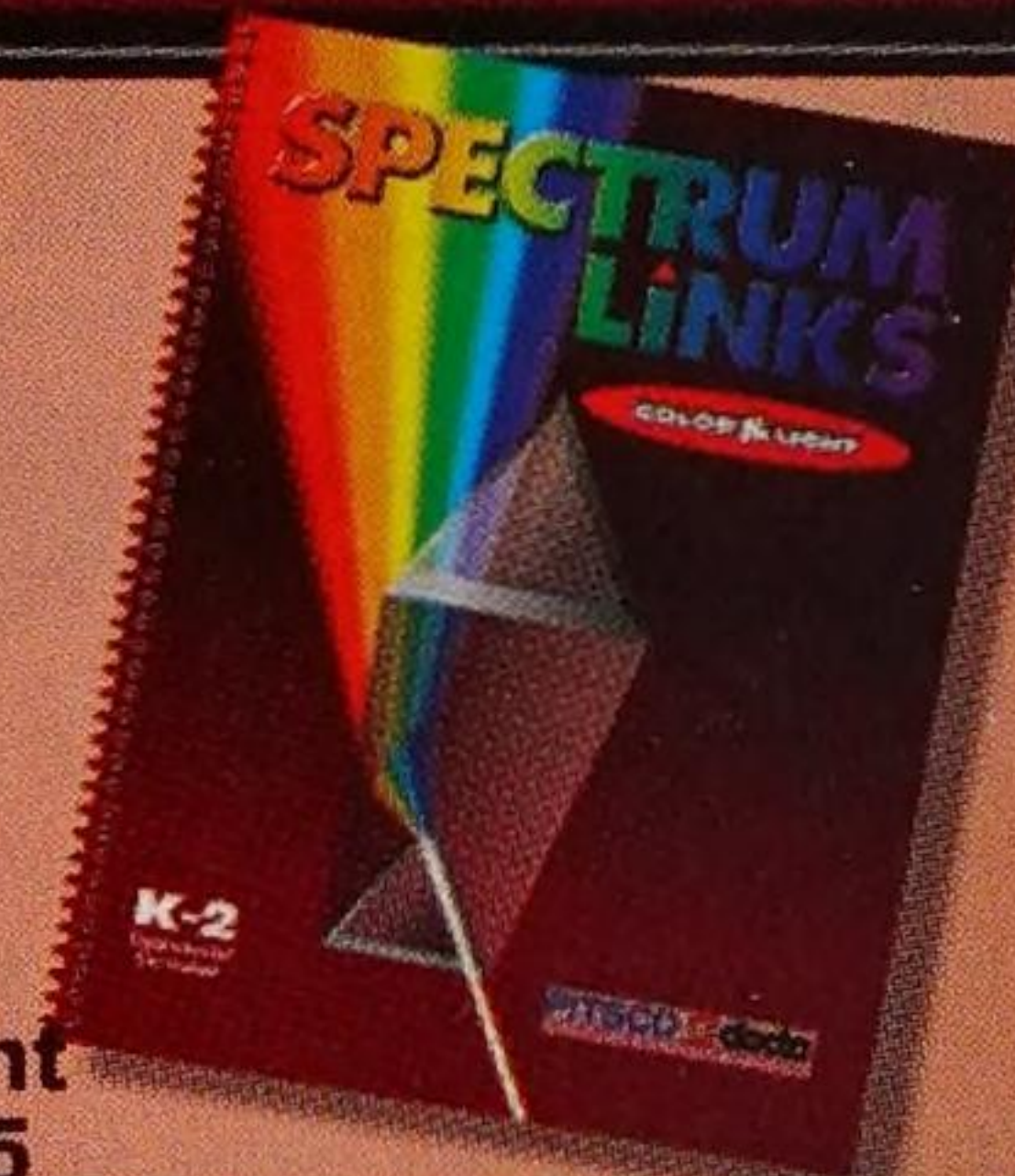
**D990050 K-8 Complete Curriculum Series—\$250**

## GRADES K-2

### COLOR & LIGHT

- Color Collections
- Color Build
- Discovering Shades
- Eyes
- Rainbow Shades
- Tasty, Tasty

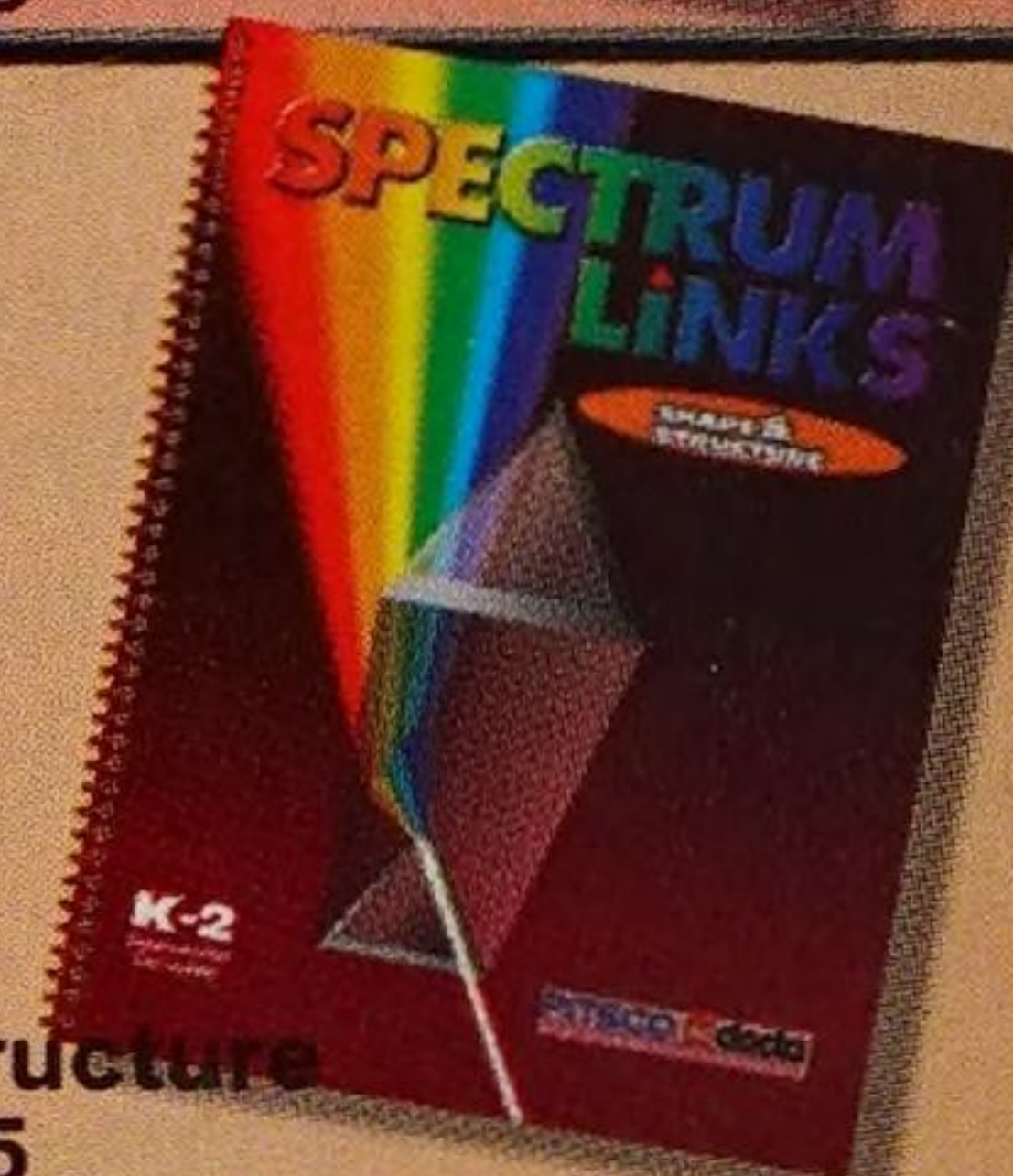
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### SHAPE & STRUCTURE

- Building a Tower
- Rapunzel's Fire Escape
- Tall Tower
- Sorting Material
- Dominoes
- Building a Wall
- The Third Little Pig
- Bricks
- My House is Made of...
- Mobile Home

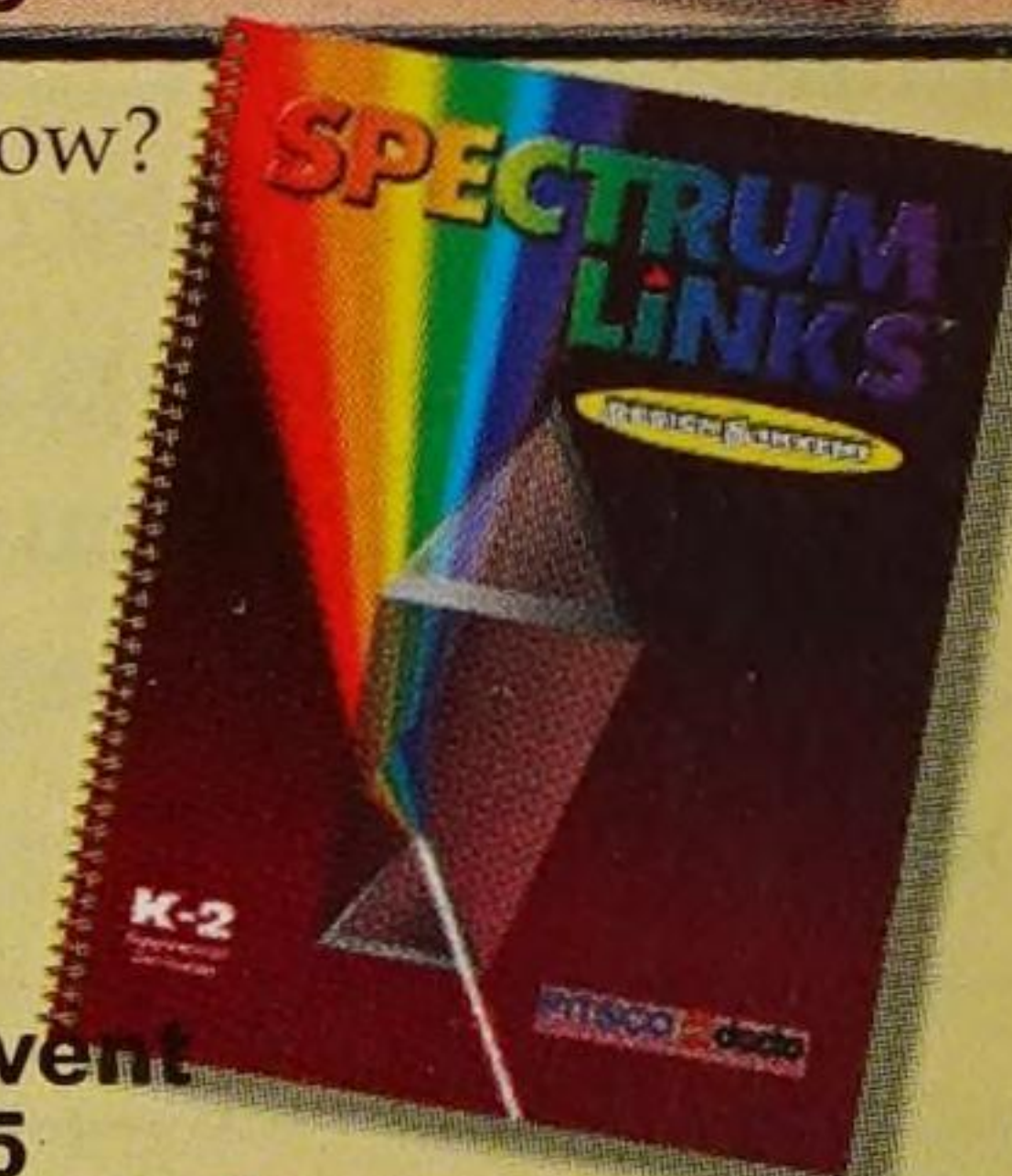
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### DESIGN & INVENT

- How Does Your Garden Grow?
- Animals
- Fencing Fun
- Touch and Tell
- Looking Through Colors
- Design and Make a House
- Cinderella's Castle

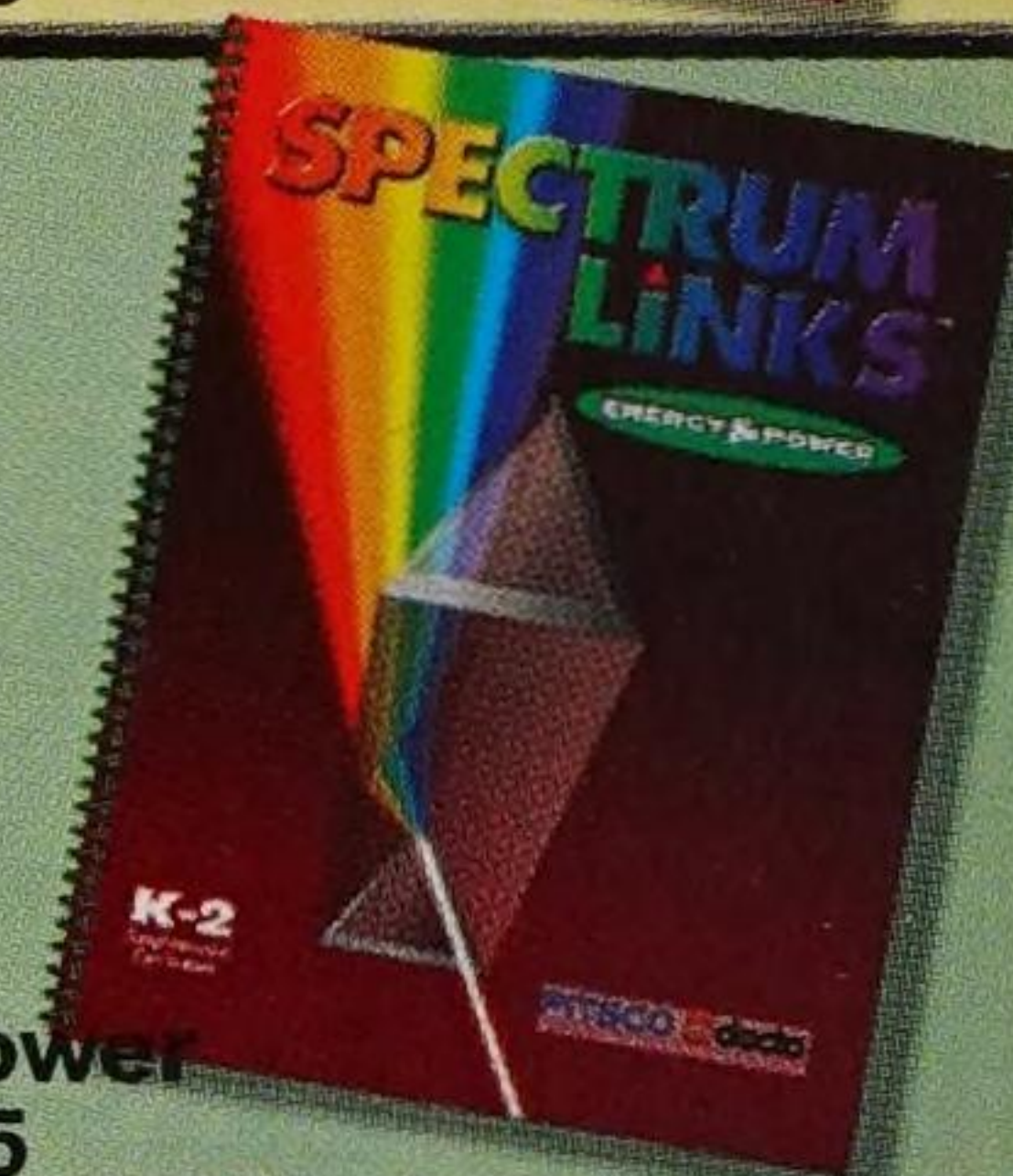
**D990030 K-2 Design & Invent Curriculum Guide—\$13.95**



### ENERGY & POWER

- Hear, Hear
- Twang!
- Make and Shake
- Hot or Cold?
- Jack Flash

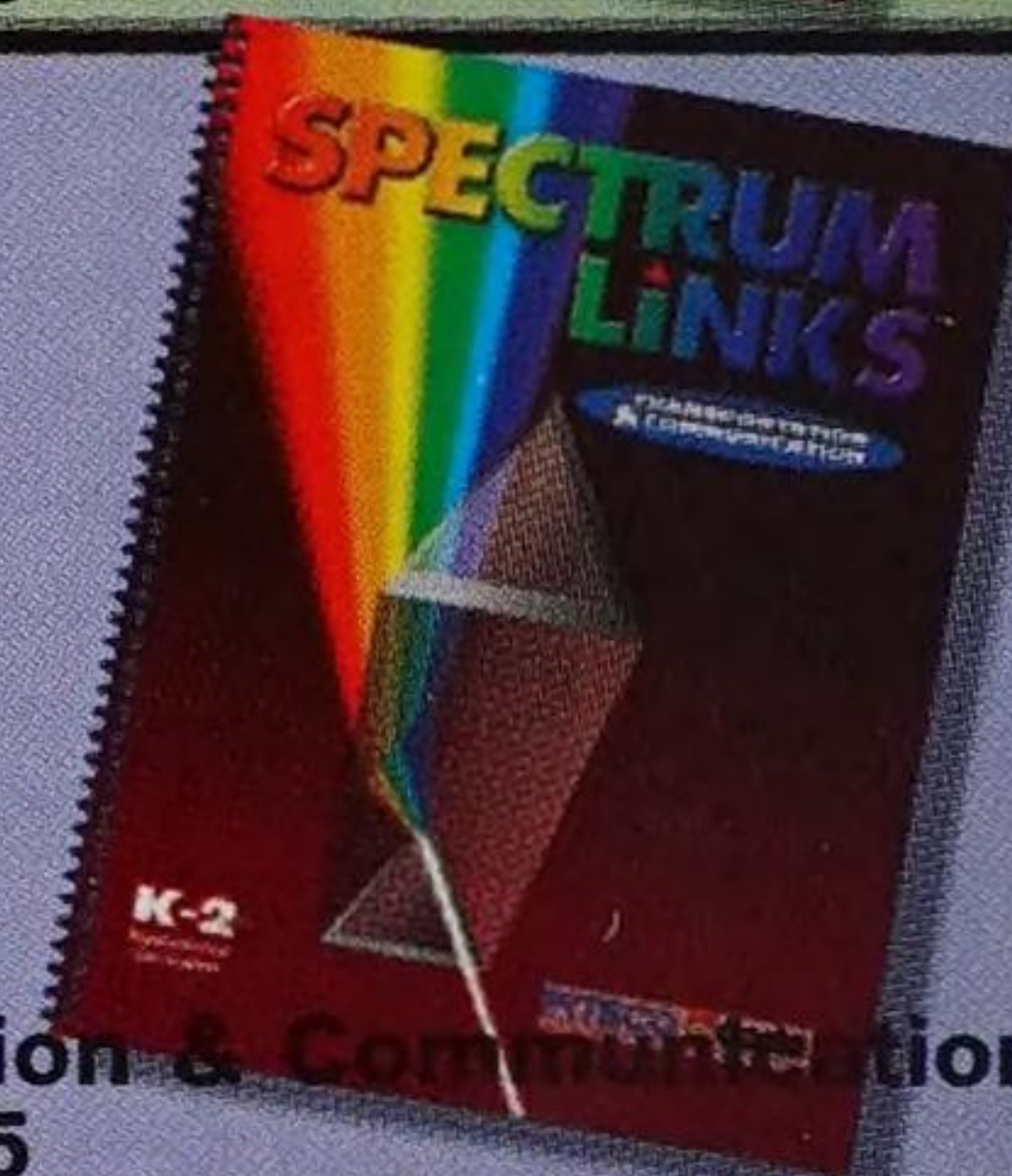
**D990033 K-2 Energy & Power Curriculum Guide—\$13.95**



### TRANSPORTATION & COMMUNICATION

- Push, Push!
- Push a Car
- Pull, Pull!
- Floaters
- Floating or Sinking
- Glug or Go?
- Lifeboat
- Give Me a Sign

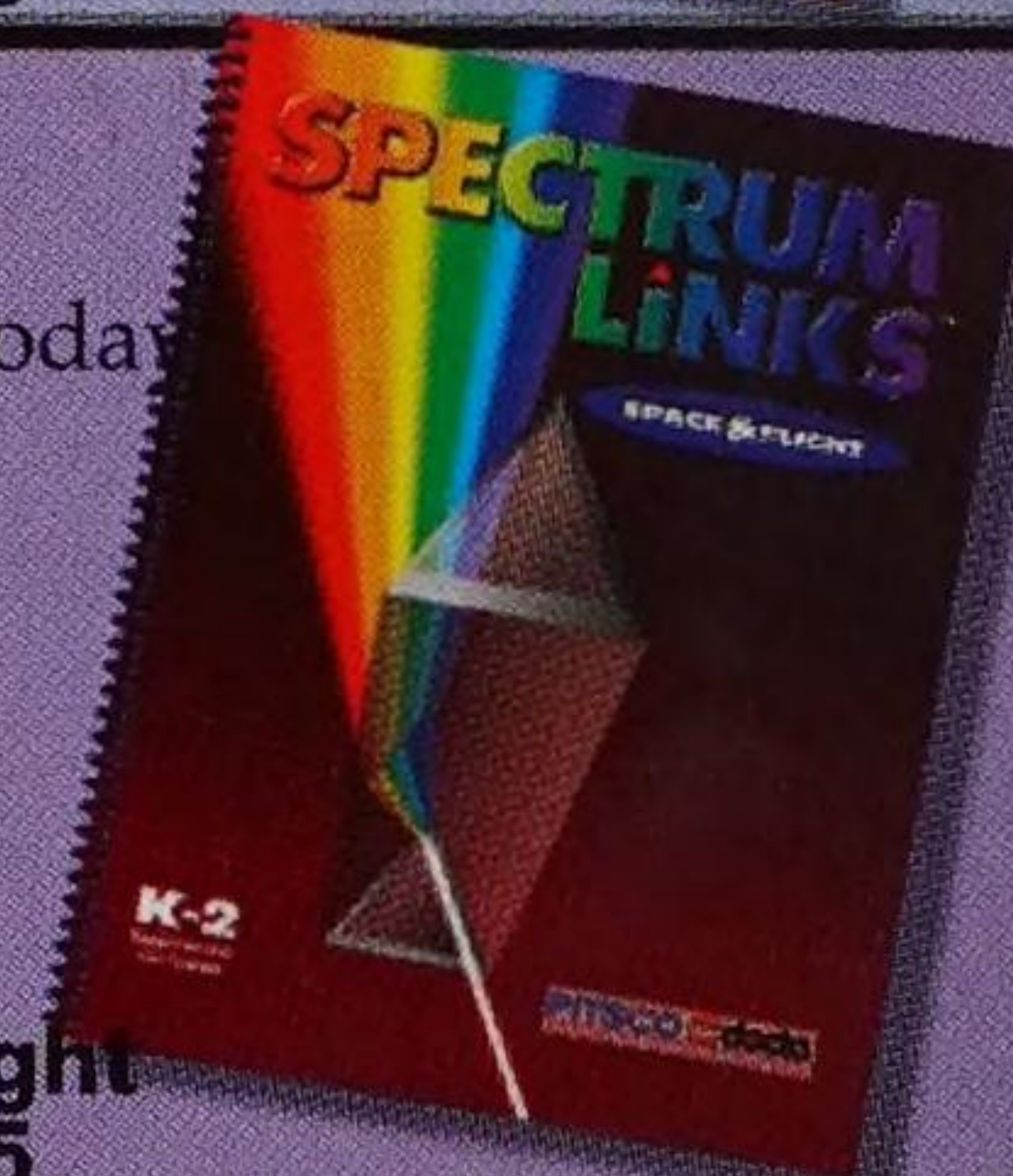
**D990036 K-2 Transportation & Communication Curriculum Guide—\$13.95**



### SPACE & FLIGHT

- Oh, Blow!
- Flap Jack
- What is the Weather Like Today?
- Wind Indicator
- Free Fall
- Whirligig
- Sail Away!

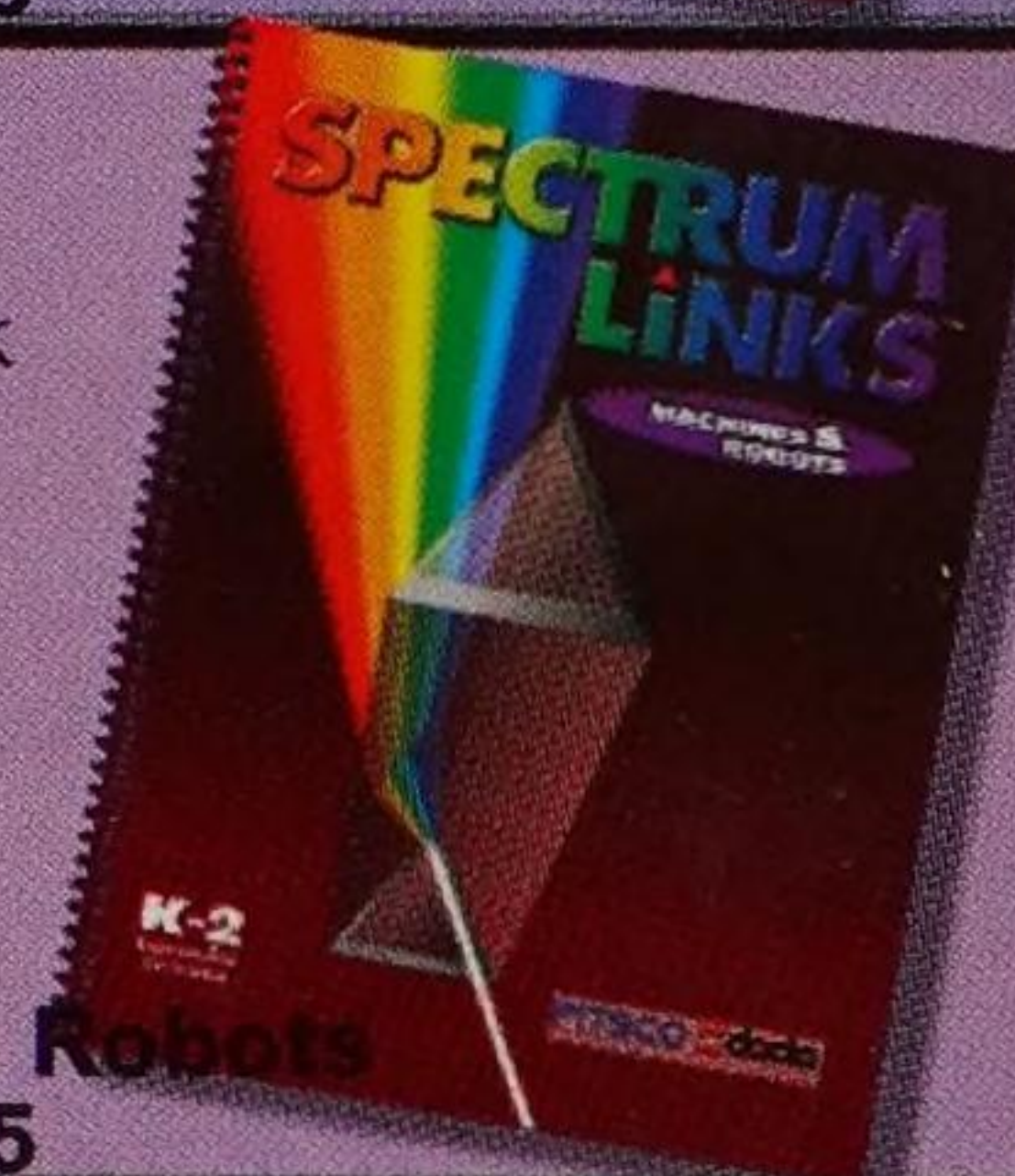
**D990039 K-2 Space & Flight Curriculum Guide—\$13.95**



### MACHINES & ROBOTS

- Sand and Water Clocks
- Making a Sand Tower
- Investigating a Water Clock
- The Clown's Eyes
- A Merry-Go-Round
- Which Way, How Fast?
- A Winch
- Robots

**D990042 K-2 Machines & Robots Curriculum Guide—\$13.95**



**D990047 K-2 Curriculum Guide Series—\$90**



**GRADES 3-5****COLOR  
&  
LIGHT**

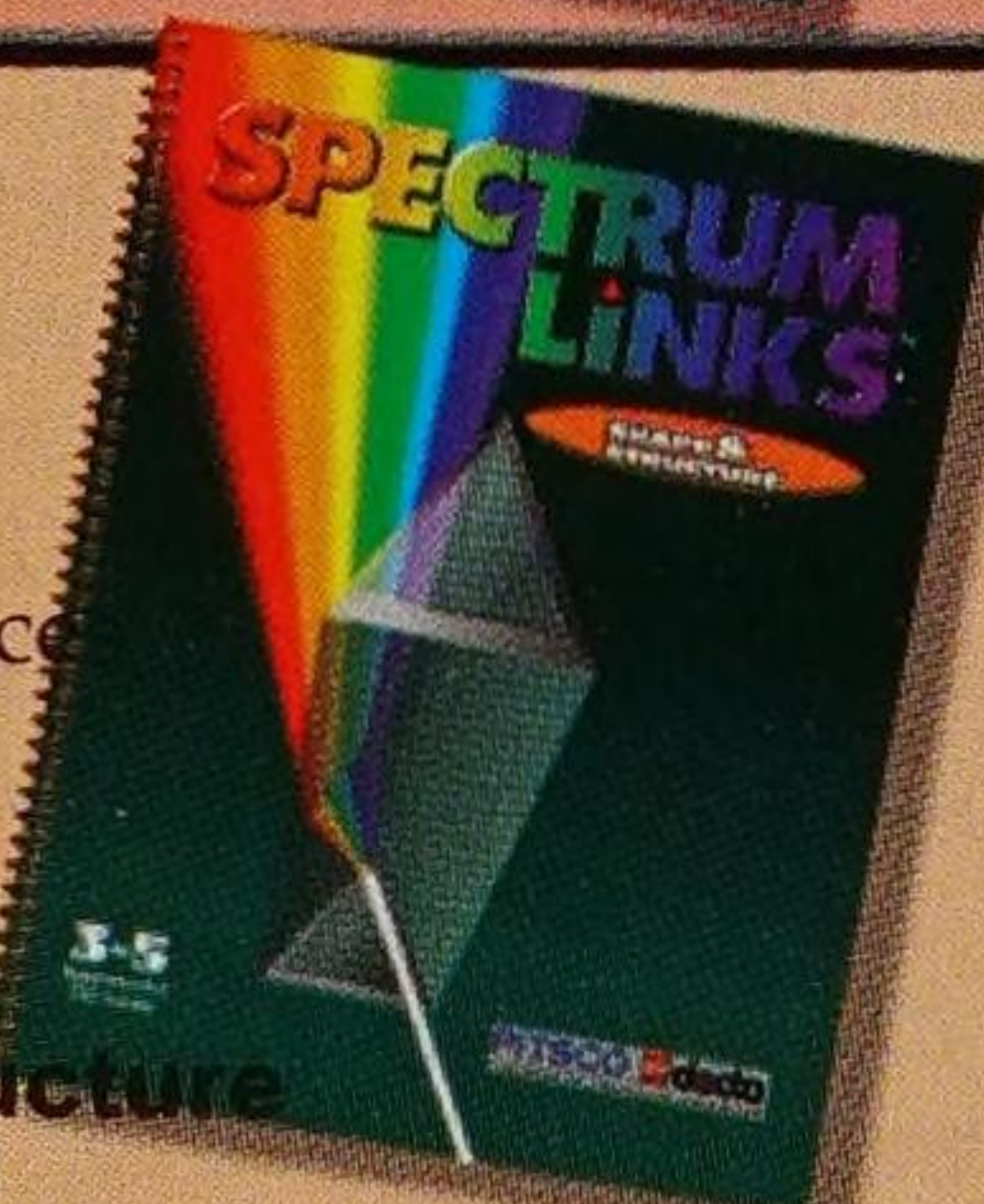
- Spinning Colors
- Hot and Cold Colors
- Red Is For Danger
- What Colors Make Black?
- Pinhole Camera

**D990025 3-5 Color & Light Curriculum Guide—\$13.95**

**SHAPE  
&  
STRUCTURE**

- Foundations
- Making and Testing Bricks
- Lighting a House
- Stage Struck
- A Bridge Too Far
- Exploring Structures and Forces
- Scaffolding and Framework

**D990028 3-5 Shape & Structure Curriculum Guide—\$13.95**

**DESIGN  
&  
INVENT**

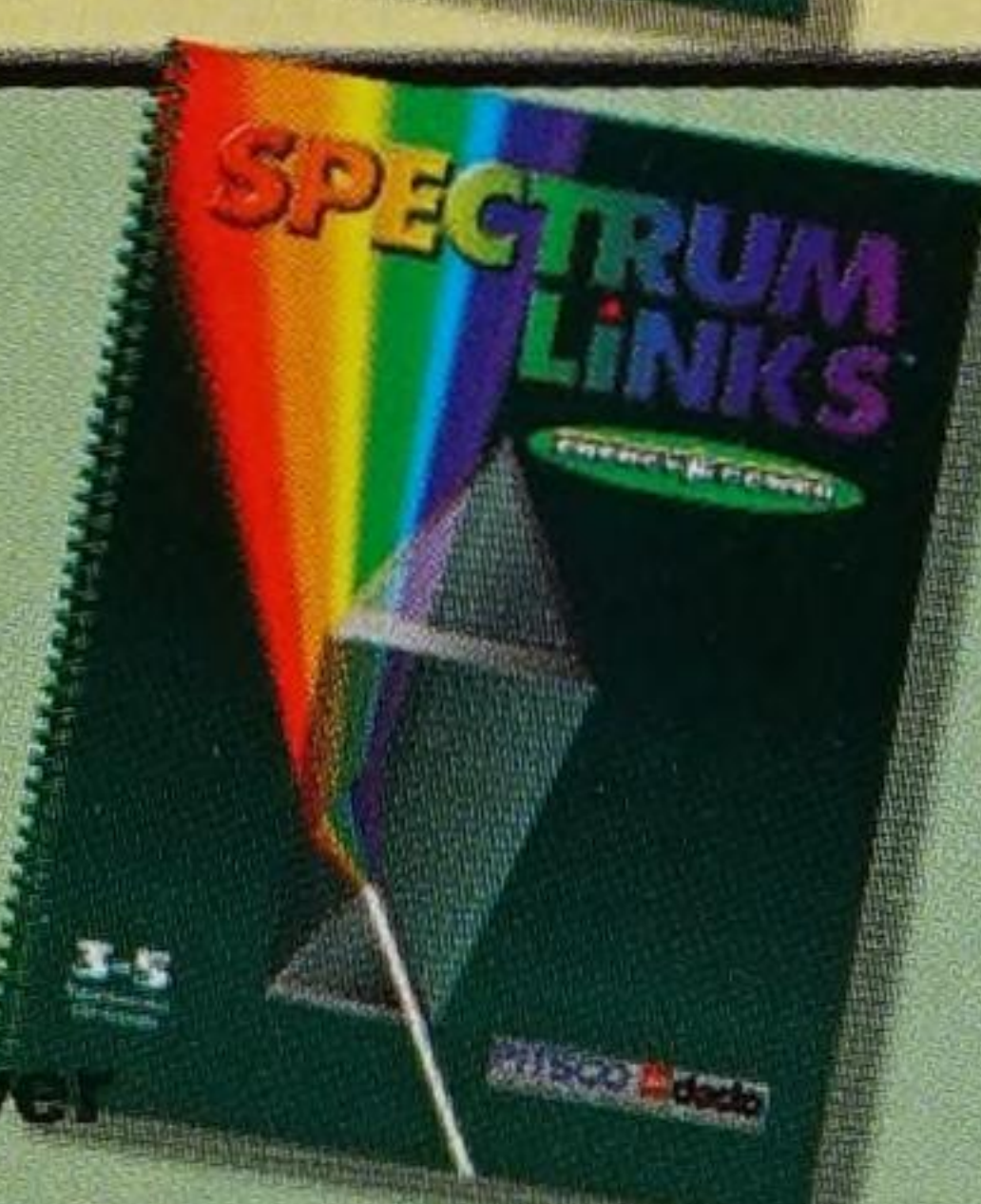
- A Greenhouse for Miss MacDonald
- Egg Packaging
- Robinson Crusoe's Shelter
- Make a Paper Fabric Clock
- Keeping Warm

**D990031 3-5 Design & Invent Curriculum Guide—\$13.95**

**ENERGY  
&  
POWER**

- Sounds on the Move
- Telephones
- Lighthouses
- Traffic Lights
- Alarm
- Robo Car
- How Do We Keep Warm?

**D990034 3-5 Energy & Power Curriculum Guide—\$13.95**

**TRANSPORTATION  
&  
COMMUNICATION**

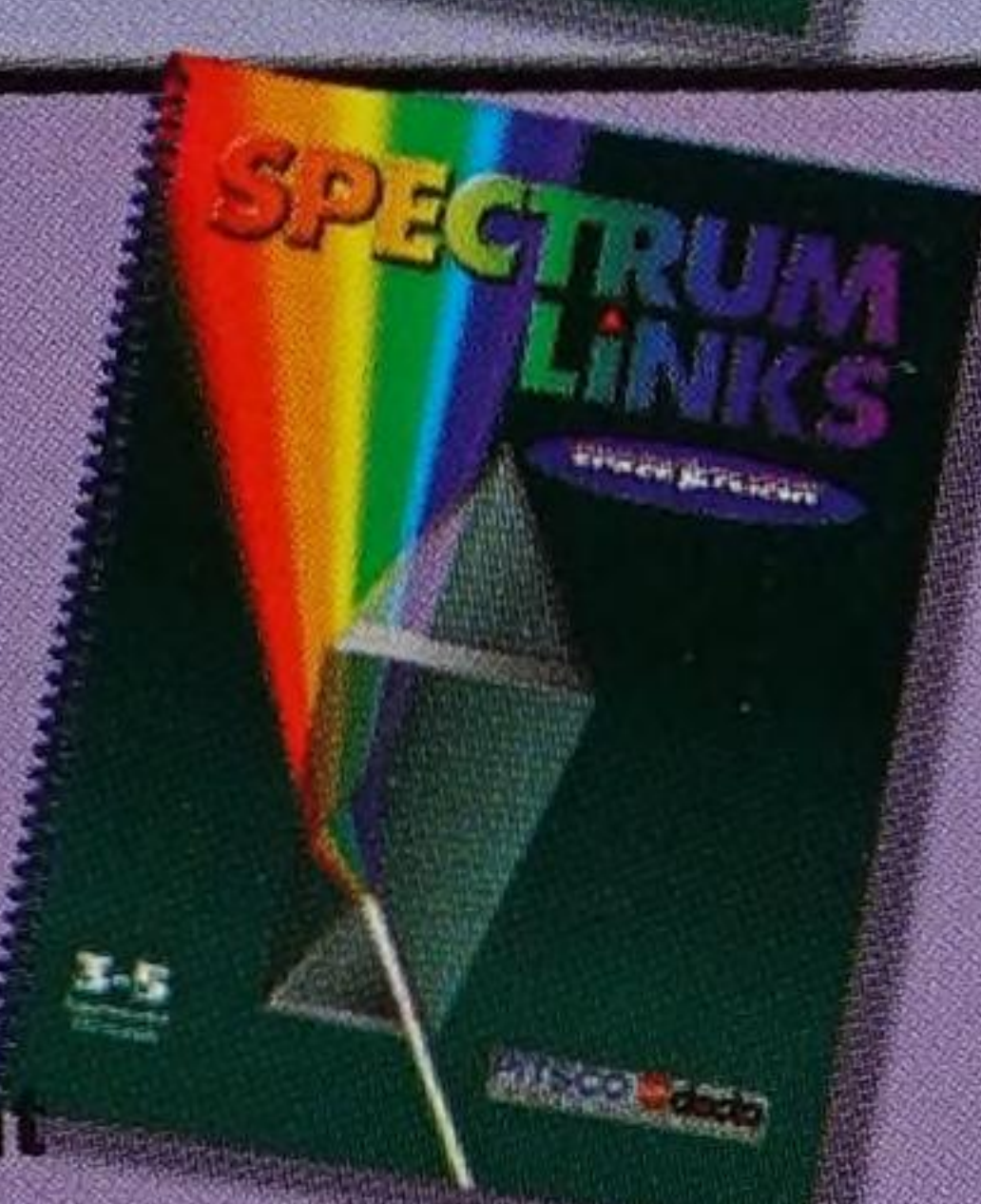
- Rolling and Sliding
- Cars and Ramps
- Racing Cars
- Paddle Boats
- But, Does It Work?
- Wheels and Axles
- Land Yachts
- Truck Loads
- Joe's Carry All

**D990037 3-5 Transportation & Communication Curriculum Guide—\$13.95**

**SPACE  
&  
FLIGHT**

- Fly Past
- My Flyer
- Helicopters
- Wing Shapes
- Parachutes
- Kites

**D990040 3-5 Space & Flight Curriculum Guide—\$13.95**

**MACHINES  
&  
ROBOTS**

- Timing with a Marble
- Candle Clocks
- One Second Pendulum
- Stow Away
- Come to the Circus
- Light Robots
- Reach Out

**D990043 3-5 Machines & Robots Curriculum Guide—\$13.95**



**D990048 3-5 Curriculum Guide Series—\$90**

**GRADES 6-8****COLOR  
&  
LIGHT**

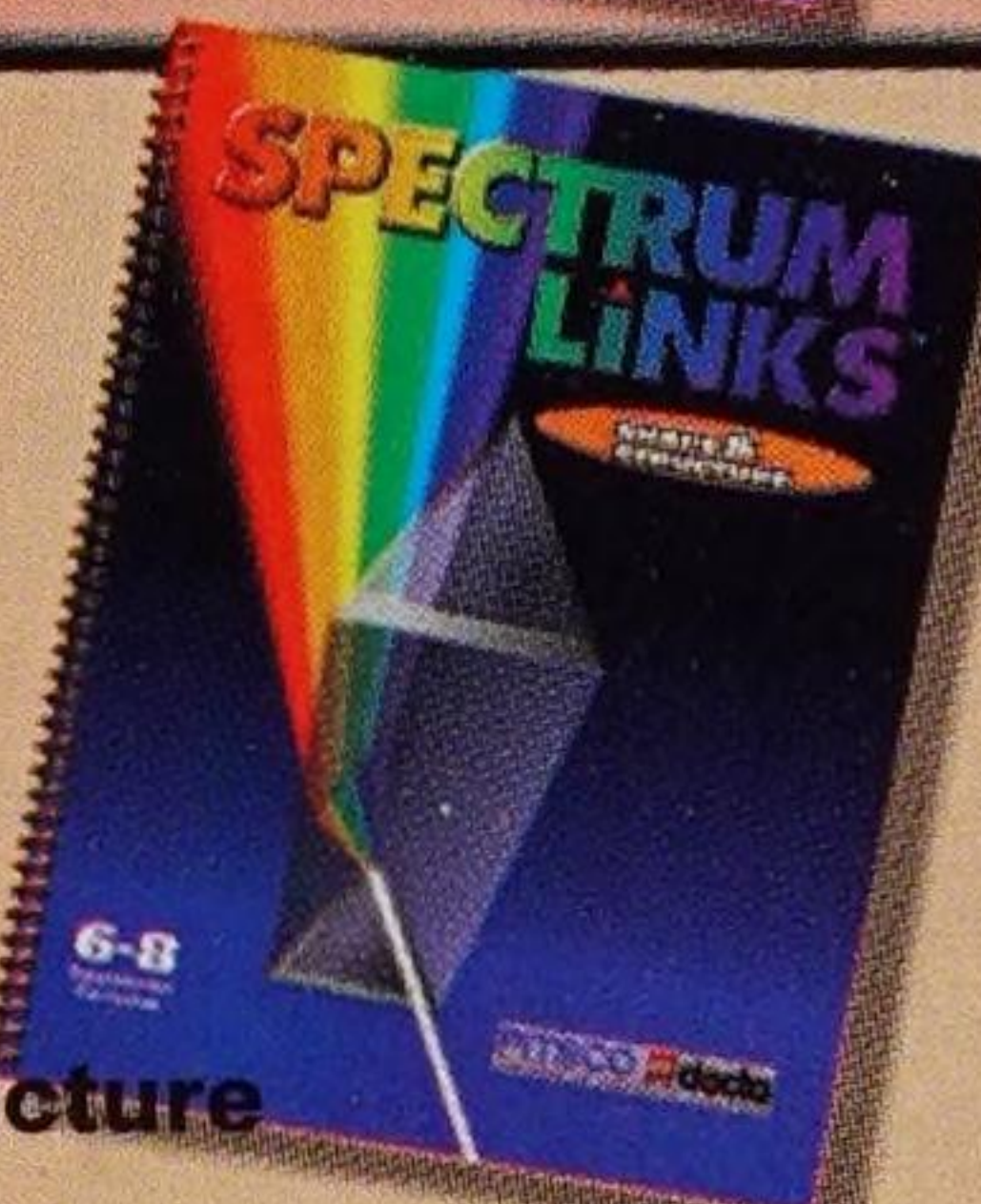
- Camouflage
- The Rainbow
- Colored Lights
- White Light
- Laser Light Show
- Ceiling Fan

**D990026 6-8 Color & Light Curriculum Guide—\$13.95**

**SHAPE  
&  
STRUCTURE**

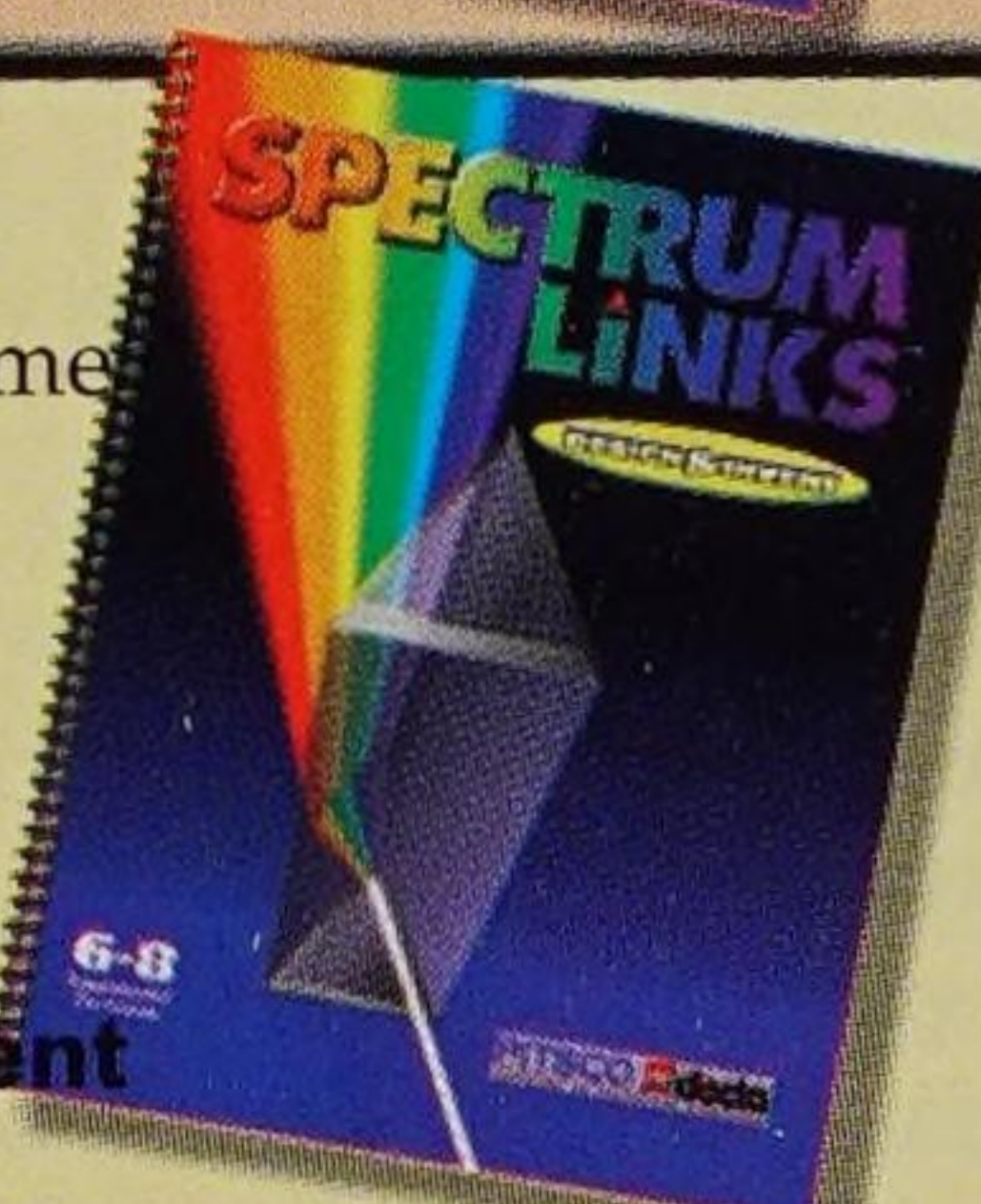
- Tunneling
- Roofs
- Towers
- Bridges Deluxe
- Building a Road

**D990029 6-8 Shape & Structure Curriculum Guide—\$13.95**

**DESIGN  
&  
INVENT**

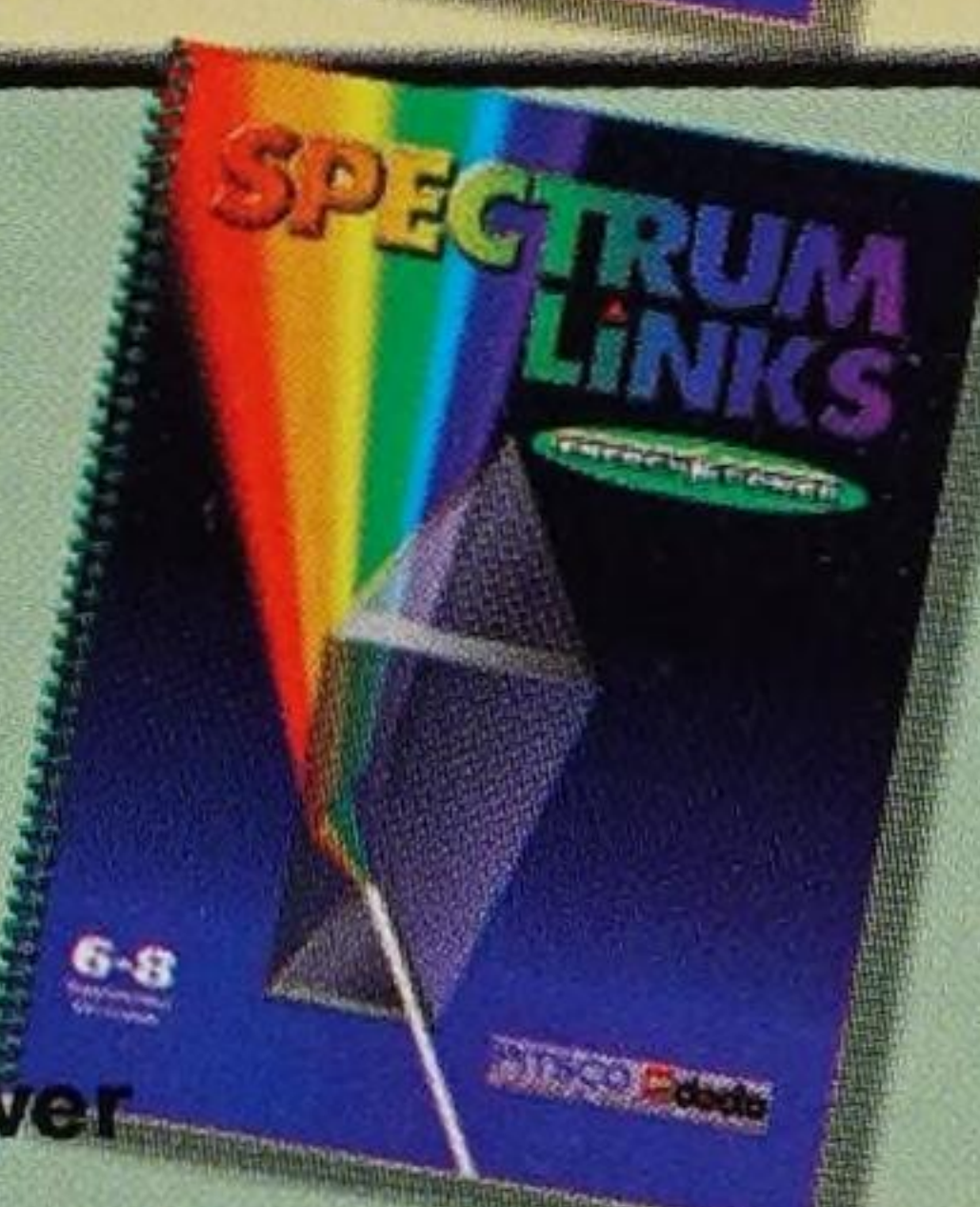
- Candles and Lamps
- A Repeater Alarm
- Designing and Making a Game
- Balloon Clock
- Challenges
- Door Lock System
- Signaling
- Shipwreck

**D990032 6-8 Design & Invent Curriculum Guide—\$13.95**

**ENERGY  
&  
POWER**

- Lights
- Controlled Traffic Lights
- Exploring Pulleys
- Exploring Gears
- Wind and Water Power
- Water Music
- Making Electricity

**D990035 6-8 Energy & Power Curriculum Guide—\$13.95**

**TRANSPORTATION  
&  
COMMUNICATION**

- Balloon-Powered Car
- Boat Loads
- Buggies
- Up the Ramp
- Solar-Powered Car
- Sailing Boats
- Flood Warning
- Crash Barriers
- Robotrike

**D990038 6-8 Transportation & Communication Curriculum Guide—\$13.95**

**SPACE  
&  
FLIGHT**

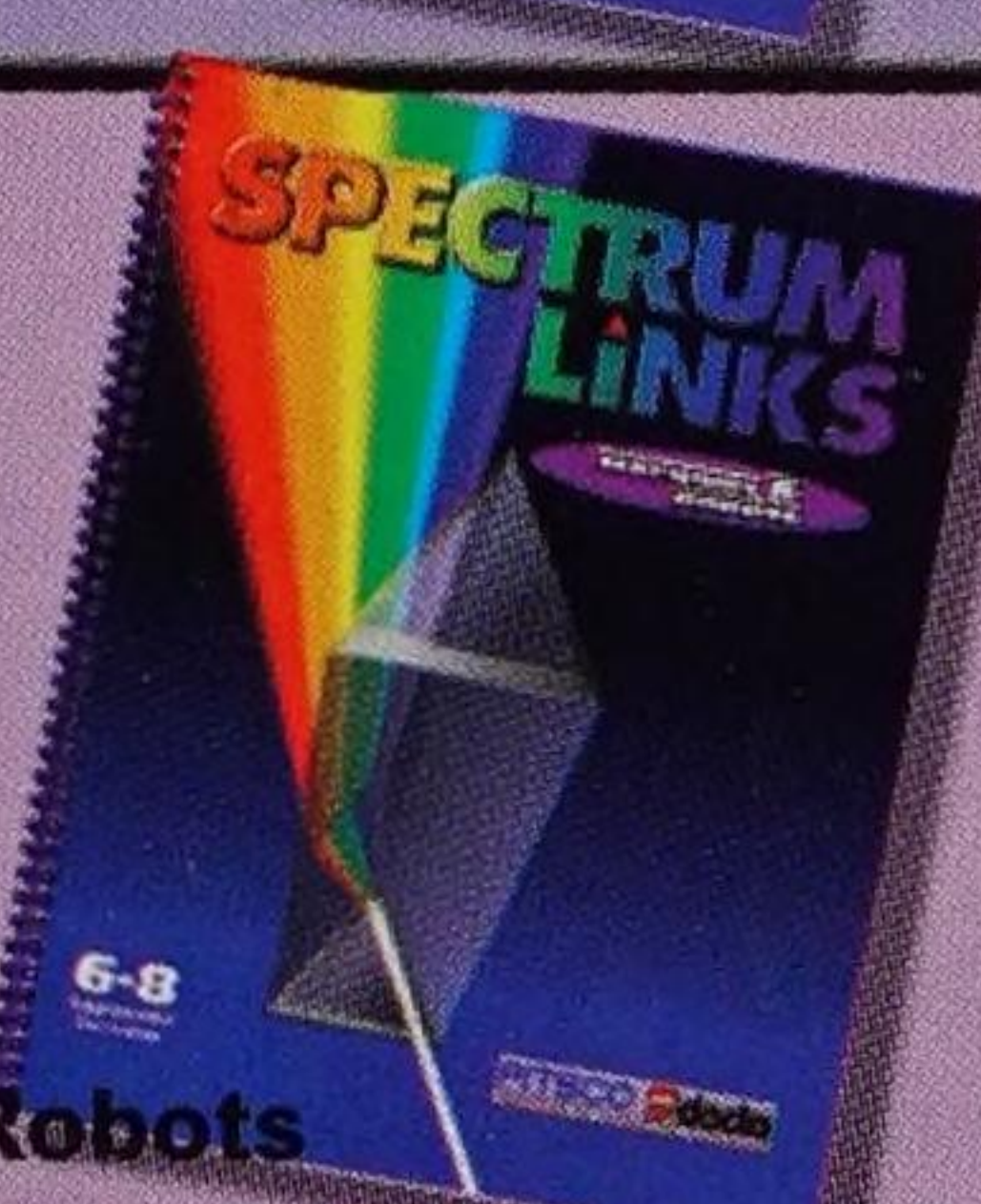
- Rockets
- Jets
- Propellers
- Moon Buggy
- Satellite
- Red Rover

**D990041 6-8 Space & Flight Curriculum Guide—\$13.95**

**MACHINES  
&  
ROBOTS**

- Using Pulleys
- Motorized Conveyor Belt
- Motorized Crane
- Catapults
- Drum Pedal
- Gears
- Multi-Robot
- Motorized Windshield Wipers
- Dactasaur
- Robot Arm
- Robot Arm and Conveyor Belt

**D990044 6-8 Machines & Robots Curriculum Guide—\$13.95**



**D990049 6-8 Curriculum Guide Series—\$90**



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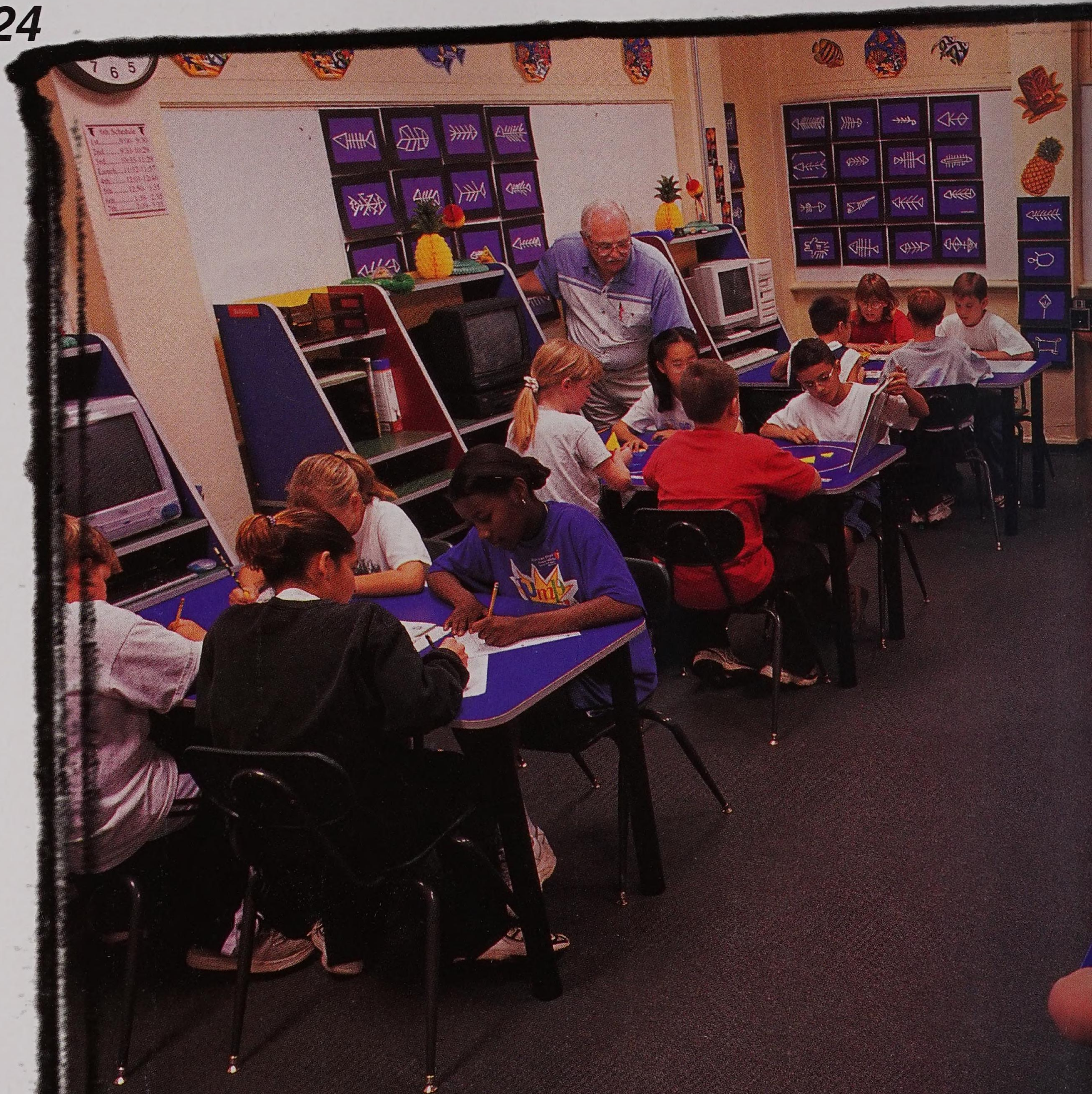
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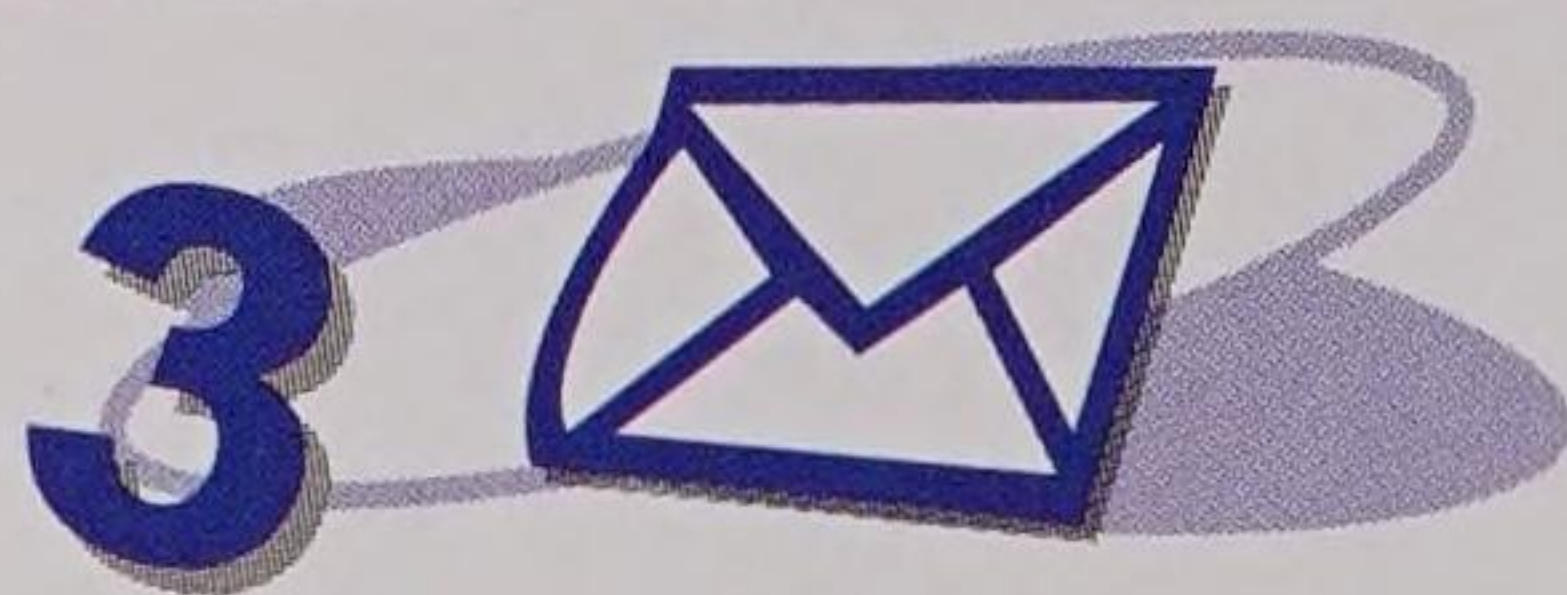
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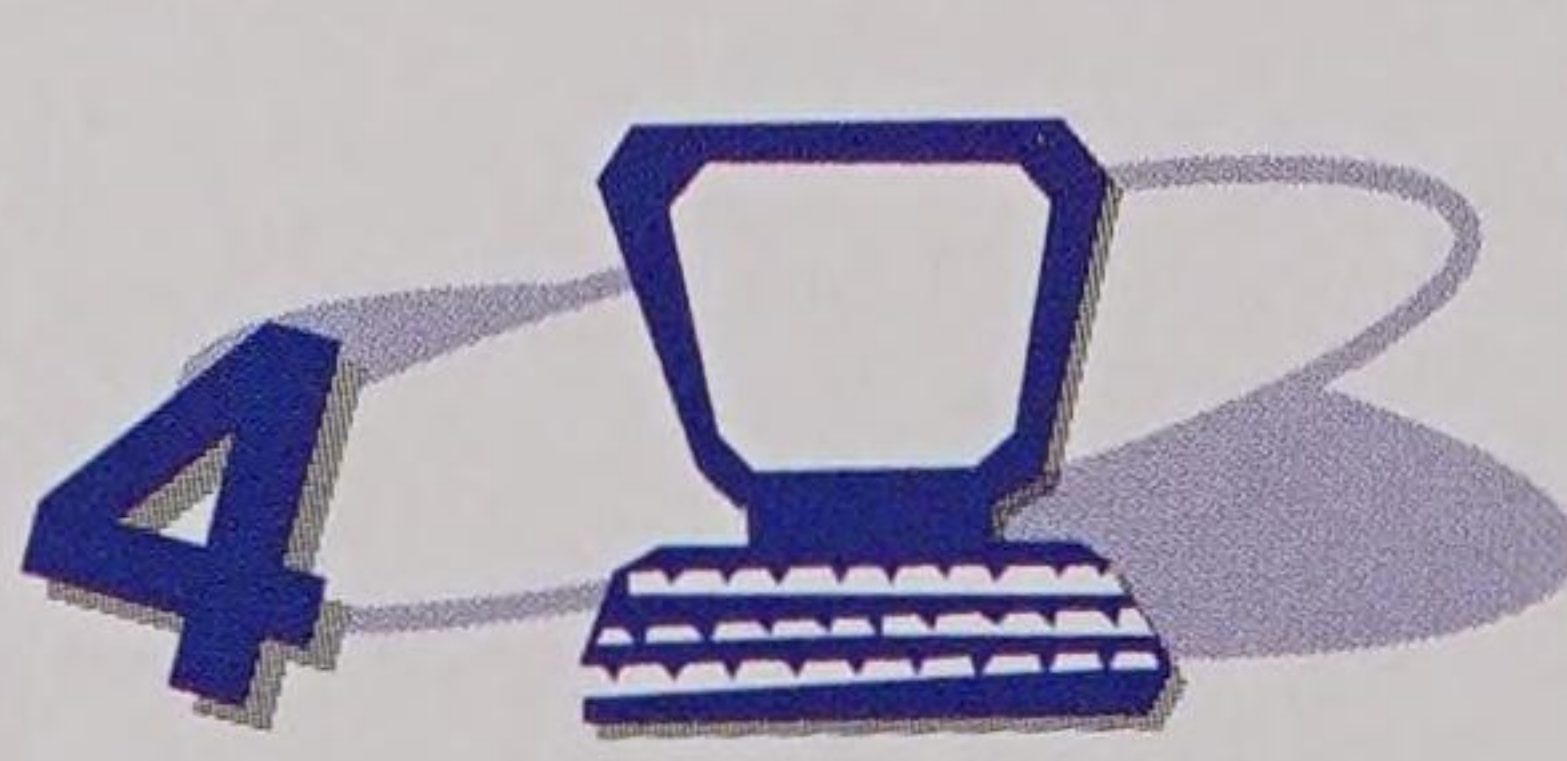
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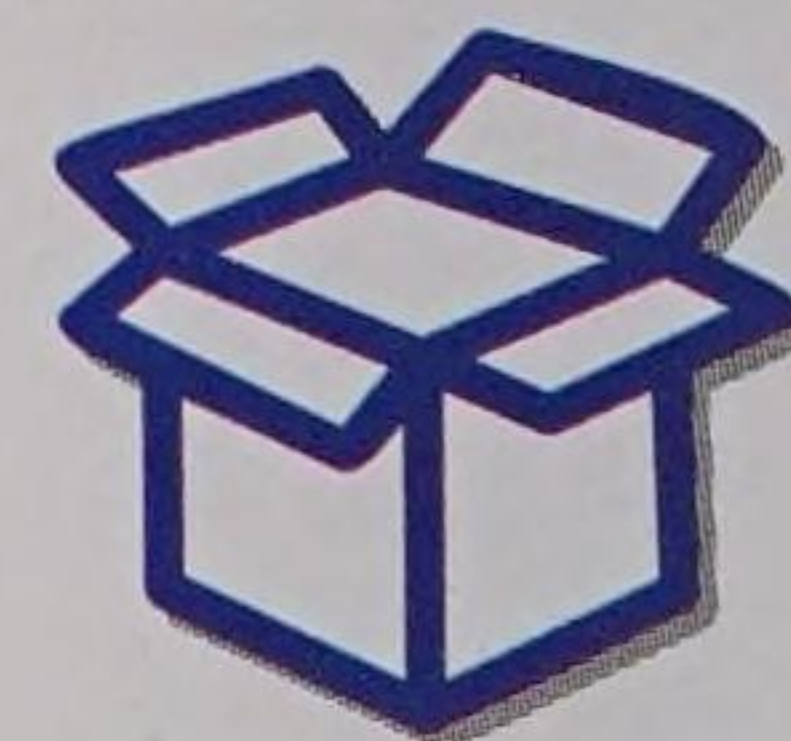
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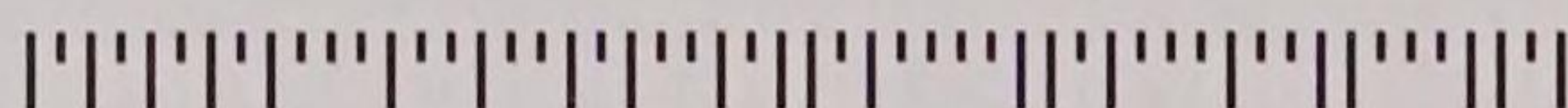


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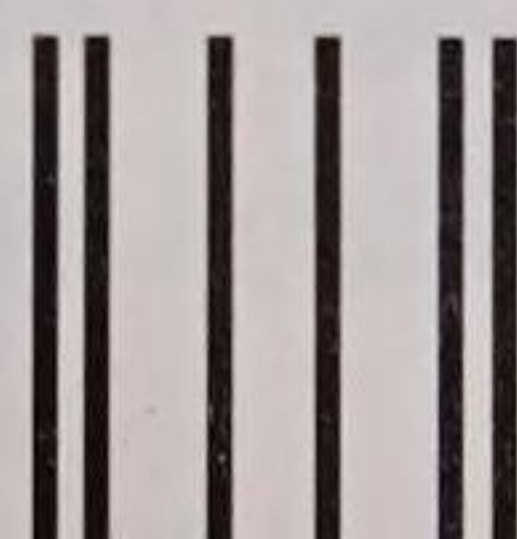
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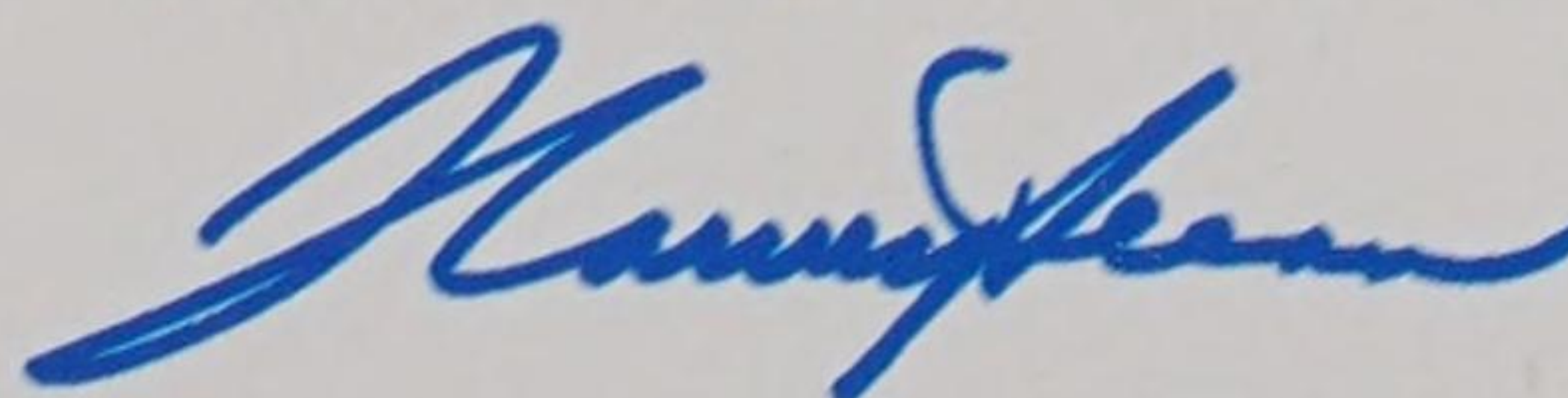
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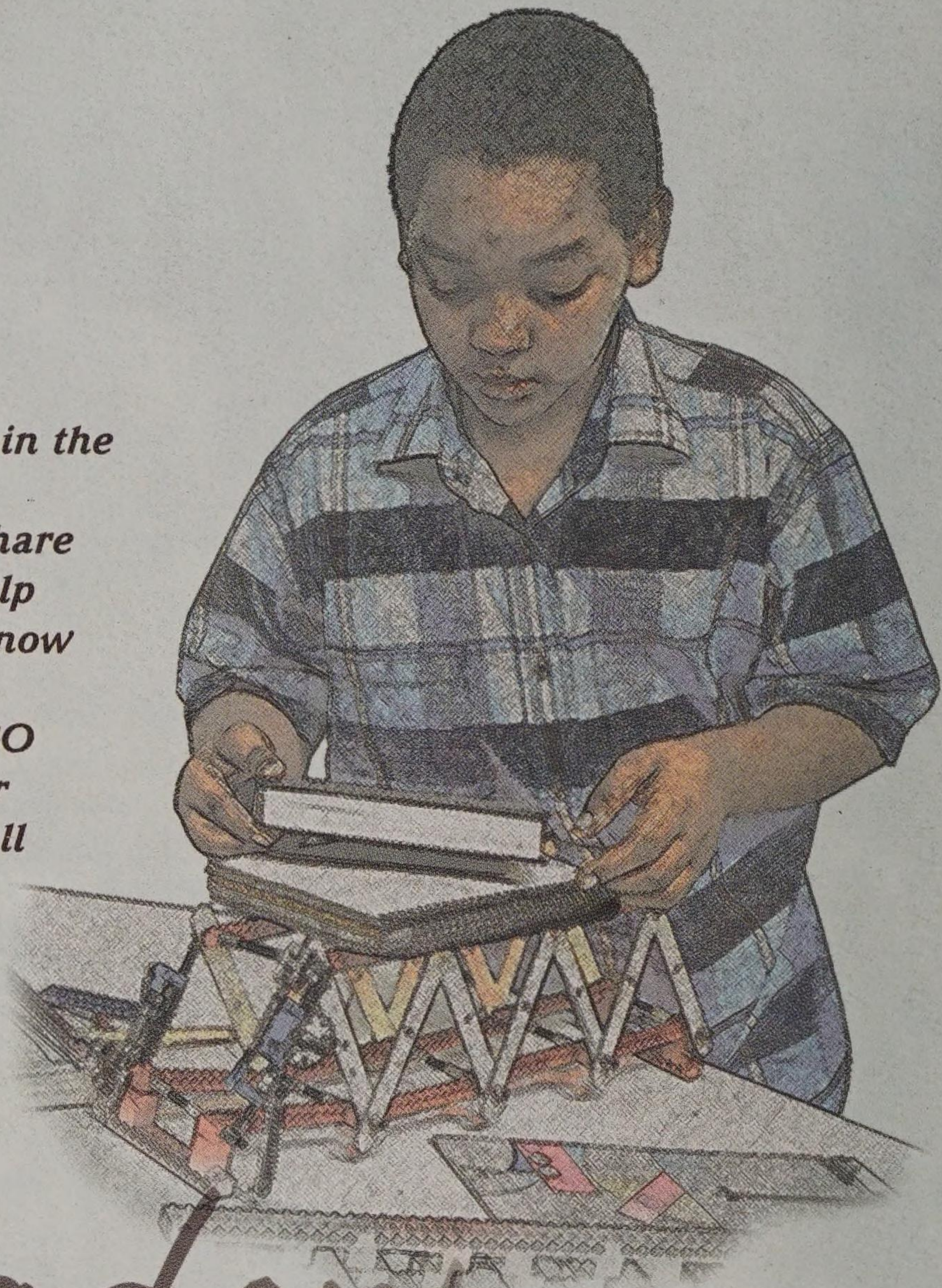
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